Madras Observatory

THE ORIGINAL

ASTRONOMICAL OBSERVATIONS,

MADE IN THE COURSE OF

A VOYAGE towards the SOUTH POLE,

AND

ROUND THE WORLD,

In his MAJESTY'S Ships the RESOLUTION and ADVENTURE,

In the Years MDCCLXXII, MDCCLXXIII, MDCCLXXIV, and MDCCLXXV,

By WILLIAM WALES, F. R. S.

Maſter of the Royal Mathematical School in Chriſt's Hoſpital;

And Mr. WILLIAM BAYLY,

Late Aſſiſtant at the Royal Obſervatory.

Publiſhed by Order of the BOARD OF LONGITUDE, *at the Expence of which the Obſervations were made.*

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MDCCLXXVII.

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INTRODUCTION.

AT the time when the Voyage was firſt planned that gave birth to the following Obſervations, it had long been the opinion of learned men, that there muſt be vaſt tracts of land, at that time undiſcovered, towards the South Pole. The probability of this opinion induced his Majeſty to fit out two ſhips, the Reſolution and Adventure, to determine this intereſting point in Geography, amongſt many others, equally curious, although not altogether ſo important as this. But it is not to be ſuppoſed that this opinion had any other foundation than mere probability: The Mathematical, or Philoſophical reaſons, which had from time to time been offered to the Public, having no foundation in nature; and the notion which ſome perſons have got concerning the neceſſity of a counterpoiſe, is ſo very unphiloſophical, that I am much ſurpriſed how ſo many ingenious Gentlemen have happened to adopt it. It is well known to Mathematicians, that every body, while at reſt, however irregular, will be *in equilibrio,* when ſuſpended on any line that paſſes through its center of gravity; nor will the revolution of a body, thus circumſtanced, about an axis, be diſturbed hereby, if the irregularities lie in the direction of its axis of rotation, as they are ſuppoſed to do in the caſe before us: if, indeed, they lie in any other direction, the matter will be different; but even then they muſt be much greater than any mountains that we know of to cauſe a ſenſible aberration in the axis of the earth.

If now, to an irregular maſs of rigid matter, circumſtanced as our earth is, there be added a quantity of matter perfectly fluid, it

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is well known, that it will diſtribute itſelf into the vallies, or rather along thoſe parts of the rigid matter which are neareſt to the center of gravity, without any regard to the center of the maſs; and conſequently, if there be not a ſufficiency of the fluid matter to overflow and cover the whole, thoſe parts will be laſt covered which are towards that part of the globe, or body, which is leaſt denſe; and this might be the caſe even if the globe was a perfect ſphere, without any irregularities in its ſurface. The ſame purpoſe might be effected, though perhaps in a more limited degree, merely by irregularities of the ſurface, even if the earth was every where equally denſe. At the ſame time it is proper to obſerve, that, although there is no neceſſity, yet it was highly probable, before this experiment was made, that the irregularities both of denſity and ſurface might be nearly equal in both hemiſpheres; and on that foundation alone, I believe, the Voyage was ordered to be undertaken.

As ſoon as the Voyage was determined on, the Commiſſioners of Longitude, ever attentive to the improvement of Science, came to a reſolution of ſending out two perſons, one in each ſhip, to make ſuch obſervations as appeared to them moſt conducive to the advancement of uſeful knowledge, and were pleaſed to appoint Mr. WILLIAM BAYLY, late aſſiſtant at the Royal Obſervatory, and myſelf, for that purpoſe; at the ſame time, furniſhing us with every inſtrument neceſſary for the undertaking, of the beſt ſort, and conſtructed by the moſt approved makers, a liſt of which follows.

1. A Portable Obſervatory.

2. An Aſtronomical Clock, made by Mr. Shelton.

3. An aſſiſtant Clock, made by Mr. Monk.

4. A Tranſit

TO THE RIGHT HONOURABLE

JOHN Earl of SANDWICH,

Firſt Commiſſioner of the Boards of ADMIRALTY and LONGITUDE, &c. &c. &c.

MY LORD,

IT affords me the higheſt Satisfaction that I am permitted to addreſs the following Sheets to your LORDSHIP, as the Patronage of a Nobleman to whom theſe Sciences, and Literature in general, owe ſo much, and to whom this Work in a peculiar Manner appertains, will undoubtedly ſecure to it a favourable Reception from all Perſons of Taſte and Learning. It is indeed to your LORDSHIP, and the other Honourable and Learned Gentlemen who conſtitute the Board of Longitude, that the Exiſtence of this Work is to be attributed; and to the ſame foſtering Care and generous Encouragement we are indebted for the preſent Accuracy of our Inſtruments, the Correctneſs of our Tables, and I may with Truth add, the Skill and Dexterity of the intelligent Mariner, who now makes thoſe Obſervations with a Degree of Succeſs, which a few Years ago was deſpaired of.

That

That your LORDSHIP may long enjoy the high and important Offices, which you now fill fo much to the Honour and Intereft of the Nation, and to the Advancement of every ufeful Art and Science, is, I am well affured, the fincere Wifh of every Friend to the true Interefts of this great Empire, and of none more than of,

MY LORD,

Your LORDSHIP'S much obliged,

moft obedient, and

faithful humble Servant,

CHRIST'S HOSPITAL,
April 26th, 1777.

WILLIAM WALES.

4. A Tranfit Inftrument, made by the late Mr. Bird.

5. An Aftronomical Quadrant, made by the fame excellent artift.

6. A Reflecting Telefcope, of two feet focal length, made by the fame.

7. An achromatic Refracting Telefcope, of 3½ feet, and triple object glafs, made by Mr. Dollond.

8. An achromatic divided Object-glafs, micrometer to ditto, made by Mr. Dollond.

9. A Hadley's Sextant, made by the fame.

10. Another, made by Mr. Ramfden.

11. An Azimuth Compafs, made by Mr. Adams.

12. A pair of Globes, made by ditto.

13. A Dipping Needle, made by Mr. Nairne.

14. A Marine Barometer, by ditto.

15. A Wind Gage, invented by Dr. Lind of Edinburgh, and made by Mr. Nairne.

16. Two Portable Barometers, made by Mr. Burton.

17. Six Thermometers, made by ditto.

18. A Theodolite, with a level, and a Gunter's Chain, made by the fame.

19. An Apparatus for trying the heat of the fea-water at different depths.

20. Two Time-keepers, one made by Mr. Larcum Kendall, on Mr. Harrifon's principles, and the other by Mr. John Arnold.

Mr. Bayley had a duplicate of each of the above inftruments, excepting the Tranfit-inftrument, which was to be ufed in common

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by each of us; and that both his Time-keepers were made by Mr. Arnold. The following account of these articles will not, I presume, be unacceptable.

Of the Observatory.

The Observatory was contrived by my associate Mr. W. Bayly, and is undoubtedly one of the most convenient portable Observatories that has yet been made. The upright sides consist of eight staves, *A B*, *C D*, &c. (see Plate II.) about two inches diameter, and five feet and an half long, which supported a circular ring, 1, 2, 3, 4, &c. to 21. of eight feet diameter, and the covering, *r*, *q*, 9, 10, &c. to 21, *o*, *p*, of oiled canvass. The staves are of beach-wood, armed at the bottom with spikes, to stick into the ground, and at the top with small iron pins, fitted to holes which are made to receive them in the ring. The ring is composed of eight circular arches, of about three feet long, two inches broad, and an inch thick, made of beach-wood, and are readily put together, or taken asunder by means of strong iron plates, screwed fast with wood screws to the end of one arch, and by screws and nuts to the end of another, for the purpose of frequent screwing and unscrewing without danger of wearing out the holes, as would be the case with wood screws entering the wood itself. Into the outer edge of this ring are drove small staples, 1, 2, 3, 4, &c. and to the upper edge of the canvass, answerable thereto, are sewed several small hooks, which being hooked into these staples, serve to support the upper edge of the canvass, while its lower edge just reaches to the ground: The two parts of the canvass, 2, 1, *o*, *p*; 9, *q*, *r*, are supposed to be unhooked from the staples 1, 2, 3, 4, and 5, 6, 7, 8 respectively, and thrown back to shew the inside of the Observatory, and the manner of fixing up the Clock, to be described hereafter: *B E* is a brace of the same

sort

ſort of wood, ſcrewed faſt to the top of the ſtaff *A B*, by a ſcrew at *B*, and to the bottom of the ſtaff *D C* at *E* Theſe braces, from the top of one ſtaff to the bottom of the next, kept the whole upright circular frame very ſteady *F G H I K L M N* is another circular ring exactly of the ſame dimenſions and conſtruction with the former, on which it reſts To this the roof of the Obſervatory is ſcrewed by means of ten long ſcrews, which paſs through the ends of the rafters at *F G H I K*, &c into iron nuts fixed in this upper ring for that purpoſe The rafters *M P*, *R P*, *I U*, *K L*, &c are attached to the crown-piece *P T U* by hinges, as repreſented at *T*, and *U*; and the two ſhort rafters *F Q*, *N O*, are attached to the two *R P*, *M P*, alſo by hinges at *O*, and *Q* By means of theſe hinges the roof is made to open or cloſe like an umbrella, and of courſe, if diſengaged from the circular ring *F R H*, &c will fold together, and may be packed up in a very ſmall compaſs

The covering of the roof is of very thick canvas, many times painted, and comes down ſo far as to hang over at the eves about four inches The crown-piece, *P T U*, is about eight inches in diameter, and covered with a circular piece of canvas like that the roof is covered with An eye-bolt *n* o paſſes through its center, and is faſtened on the inſide by the nut o This eye bolt is intended for the reception of the hook *n*, which is faſtened to the cord *m b g c d*, paſſing over a pulley at *W*, fixed in the top of the pole *I Z* Towards the bottom of this pole there is fixed a lever *g b*, by means of the clamp *e f*, and its fellow on the oppoſite ſide, and the lever, turns on the iron bolt *f* The cord *m b c d* paſſes through a hole *c* in the lever, and is drawn tight when the end *b* of the lever is turned upwards, and then made faſt Now if the end *b* of the lever be brought down towards *z*, and there faſtened by means of the

 becket,

becket, or endlefs cord *i k*, the roof of the Obfervatory will be drawn up from off the ring 1, 2, 3, &c. and may be turned round by twifting or untwifting of the cord, until the opening *N O P Q E* is towards the fun, or any other object, of which an obferva-tion is wanted to be made. When the obfervation is completed, the lever may be releafed, and the roof let down again to reft with its whole weight on the lower ring, as it will then be lefs liable to be difturbed by the wind: There are alfo eight fmall ftaples on the infide edge of the lower ring 1, 2, 3, &c. and as many fmall hooks, correfponding to them, on the upper, or that to which the rafters of the roof are faftened. Thefe hooks, when the roof is lowered down, are to be hooked into the ftaples, and the cord then drawn tight, to prevent, yet farther, the effect of the wind. The open-ing *N, O P, Q F*, is covered, when not in ufe, by the flap, or roll of fpare canvas *Q R G S*, which is of the fame fort, and painted in the fame manner, as that which covers the roof. The whole of this Obfervatory, except the three poles *W Z*, *W X*, and *W Y*, when taken down and packed up properly, is contained in a cheft fix feet and nine inches long, and about twenty inches fquare: The poles, which form the tripod, are of about fifteen feet long, and four inches diameter, may be laid amongft the fpare booms of the fhip, or if they fhould be thought too cumberfome there, may be cut out of the woods, or purchafed for a trifle at any place where they are wanted.

Of the Clocks.

BOTH Clocks were made by Mr. Shelton, being furnifhed with compound pendulums of that fort ufually called Gridiron Pendu-lums; and they efcaped dead feconds in the late Mr. Graham's manner. They were fixed up by means of an iron block and

frame,

frame, which is represented in Fig 3 Plate I where *ABCD* is a flat block of cast iron, about three or four inches thick, two feet long, and 13 or 14 inches broad, weighing between three and four hundred pounds This block was laid horizontally on four wooden piles shod with iron, and driven deep into the ground, where the soil admitted of it; and where it did not, was placed on the firm rock *EFGH* is a frame of wrought iron, about an inch square, every where except at the top *FG*, where it is about three inches broad, and three fourths of an inch thick, and it is screwed firmly to the block at *E* and *H* by the screws *a a* *IK* and *LM* are two braces of wrought iron, an inch square, screwed firmly also to the block at *I* and *K*, by the screws *n n*, and to the frame *EFGH* at *K* and *M* by the screws *o o* The bottom of the clock case rested on the flat horizontal surface *ILEH*, with its back against the flat bar *FG*, to which it was screwed fast by two strong screws, passing through the back-board of the case, and the mortices *S, S*

This method of fixing up a clock on temporary occasions, was the invention of the very ingenious Mr John Smeaton, F R S It has many advantages, as it may be set up in an hour's time, and may be effected in many situations, where the old method of letting down a post could not be made use of, particularly in rocky places, which are often the only eligible situations that can be found for observing near the sea shore, it also affords an exceeding steady foundation, and is subject to no inconvenience, that I know of, but the expansion of the frame *EFGH* and braces *IK* and *LM*, which I found would be sometimes so great as to lift the clock case entirely off the block *ABCD*, and thereby render it loose, and subject to acquire motion from the momentum of the pendulum This however may, I think, be completely remedied by having a cross

croſs bar towards the bottom of the iron frame, as repreſented by the dotted lines *b c*, *d e*, to which the clock caſe may be ſcrewed faſt in the ſame manner as at the top, by ſtrong ſcrews and nuts paſſing through the back board and the mortices Q Q There will indeed one inconvenience ariſe from this mode of fixing the bottom of the caſe, namely, that the clock muſt be ſet perpendicular to the horizon, entirely by the driving of the piles on which the iron block lies, and which will be very troubleſome and very tedious to do, and of courſe take up much time, which in the caſes where this apparatus will be moſt wanted, is often extremely precious, and on that account I would propoſe that there ſhould be two ſtrong arms fixed to the croſs bar *b c*, *d e*, inſtead of the mortices Q Q, projecting forward, at ſuch a diſtance as to admit the clock-caſe freely between them In each of theſe arms ſhould be a pretty ſtrong ſcrew, and by eaſing one of theſe ſcrews, and tightening the other, the clock might very readily be brought perfectly upright, after the iron block had been laid nearly horizontal, and when it is ſo, both ſcrews may be made to preſs againſt the caſe with equal and a moderate force Another ſcrew might be added in the iron bar *b c d e*, if thought proper, to ſet it upright the other way, but this is not ſo neceſſary

As neither of theſe remedies were thought of at the time Captain Cook ſet out on his preſent voyage, it was thought adviſable to try other methods; and that repreſented in Plate II was made choice of to be uſed by the Gentlemen who make the Aſtronomical Obſervations in the courſe of the voyage which he is now gone upon; the firſt hint of which, except what is to be met with in the Appendix to my Lord Mulgrave's Voyage towards the North Pole, was from a drawing of Mr Bayly's, preſented to the Com-

† miſſioners

miſſioners of Longitude, and by them put into the hands of Mr Arnold, watch-maker, to execute, and who made ſome deviations from the original drawing, which he thought was for the better In the engraving, μυφλ repreſents the Clock, ſupported clear of the ground, by the pieces ΦΩ, ΓΕ, ΣΘ, which are of mahogany, about two inches thick, and about two inches and a half broad, and ſcrewed firmly to the caſe of the Clock at Φ, Γ, and Σ, with ſtrong iron ſcrews, and nuts Theſe pieces reſt on three oaken piles, Λ, Π, and Δ, drove deep into the ground, and may be raiſed or lowered by means of the ſcrews α, β, γ, as may be neceſſary, to bring the Clock-caſe to ſtand perpendicular Two of thoſe pieces, ΦΩ, and ΣΘ, are ſcrewed to the two ſides of the Clock-caſe, very near the front, and juſt below the riſing-board, and the third ΓΕ, directly in the middle of the back-board, at exactly the ſame height with the other two δι, Ωη, and ρϑ, are three horizontal braces of mahogany about two inches ſquare, morticed faſt into the pieces ΓΕ, ΦΩ, and ΣΘ, at δ, Ω, and ϑ, and force pretty hard againſt the caſe of the Clock at ι, η, and ρ, that is, δι directly againſt the middle of the back-board, and Ωη, ϑρ againſt the two fore corners of the caſe, the ends η and ρ of theſe two laſt being cut in an angle exactly to fit them The caſe of the Clock, particularly the back-board, is made very ſtrong, and is but juſt of a height ſufficient to contain the pendulum

Before I quit this ſubject, it may not be amiſs to take notice of ſome very extraordinary irregularities, which happened in the going of the Clocks, as well as to bring into one point of view their ſeveral rates of going at the different places where they were ſet up

 The

The Clock B, which, I believe, has not been remarked in the body of the Work, gained 5″,03 a day on ſyderial time from March 28th to April 1ſt, 1772, when fixed up at the Royal Obſervatory in Greenwich-Park, to pieces of wood let into the wall of the Obſervatory; that is, in the manner which the Tranſit Clock at that place is fixed up: and the Clock C loſt 0″,373 a day on ſyderial time from March 25th to March 28th, 1772, when fixed up at the ſame place, and in the ſame manner. The mean vibrations of the pendulum were 1°,53′ each way. This Clock, with the ſame length of pendulum, loſt 20″½ a day on ſyderial time, from July 1ſt to the 9th, 1772, at Drake's Iſland in Plymouth Sound, latitude 50° 21′½ N., and longitude 4° 16′½ W. of Greenwich; and the pendulum vibrated 1° 50′ each way.

At Fonchiale, in Madeira, latitude 32° 33′½ N., longitude 17° 11′½ W., B loſt 36″,6, and C 1′ 15″ a day on ſyderial time, from July 30th to Auguſt 1ſt, 1772: the pendulum of B vibrated 1° 40′ each way, and that of C 1° 53′.

At the Cape of Good Hope, latitude 33° 55′½ S., longitude 18° 23′½ E., B loſt 1′ 15″,43, and C 1′ 27″,35, a day on ſyderial time, from November 2d to the 14th, 1772: the mean vibrations of the former were 1° 37′½, and thoſe of the latter 1° 43′½.

At Duſky Bay in New Zealand, latitude 45° 47′$\frac{1}{12}$ S., longitude 166° 18′ E., B gained 4″,066 on ſyderial time, from April 5th to the 21ſt, 1773; and its mean vibrations were 1° 35′ each way.

At Queen Charlotte's Sound in New Zealand, latitude 41° 6′ S., longitude 174° 18′½ E., C loſt 1′ 29″,003 a day on ſyderial time, from

April

April 20th to May 20th, 1773; and its mean vibrations were 1° 52′ each way This Clock went here with greater regularity from day to day than it had done at any other place, except that some time in the night between the 14th and 15th of May, it seems to have stopped exactly 12″, which is a most extraordinary circumstance, especially when we consider Mr Bayly's remark on that head, p 36 and no way, that I know of, to be accounted for

At Point Venus in Otaheite, latitude 17° 29′$\frac{1}{2}$ S, longitude 210° 25′ E, B lost 1′ 28″,42, and C 2′ 10″69 a day on sydereal time, from August 27th to the 31st, 1773 the pendulum of the former vibrated 1° 39′, and that of the latter 1° 46′$\frac{1}{2}$ each way

At Queen Charlotte's Sound, B lost 21″,116 a day, from November 6th to the 22d, and vibrated 1° 38′ each way and C lost at the same place 1′ 8″,47 a day, from December 7th to the 15th, 1773; and its pendulum vibrated 1° 46′ each way The ball of the pendulum was now about 7 feet above the sea at low-water mark when here before, it was about 84$\frac{1}{2}$ feet above it

At the Cape of Good Hope this Clock lost 1′ 36″,016 a day on sydereal time, from March 23d to the 28th, when Mr Bayly removed the Observatory and Clock to another part of the garden, after which, from the 28th to April 10th, 1774, it lost at the rate of 1′ 17″,71 on sydereal time I have remarked in p 76 that Mr Bayly says, he is absolutely certain no alteration happened in the length of the pendulum, and I make no doubt but that he examined it with the utmost attention but if some alteration in its length did not take place, and which, I think, might possibly happen, without his being able to discover it, it is utterly impossible to account for so great and sudden a change The pendulum vibrated 1° 46′ each way

The

The Clock B lost 1′ 22″,64 a day on sydereal time at Otaheite, latitude 17° 29′¼ S., and longitude 210° 25′ E., from April 23d to May 9th, 1774; but I here reject its loss between April 30th and May 1st, as it appears to have lost exactly 1′ more on that day than on any other; a circumstance I cannot account for *properly*, as I never, that I know of, left the case or face of the Clock unlocked. There is, however, little doubt but that some *witty* Gentleman or other found means to open it, and put the Clock a minute back, I suppose, to try whether or no the *Astronomer* could find it out. The vibrations of the pendulum were 1° 35′ each way until April 30th, on which day they dropped to 1° 30′, and after that decreased gradually, so that on May 7th the vibrations were no more than 1° 15′. I could find no visible cause for this alteration; the Clock was not more than $\frac{1}{2}$ down: however, I wound it up, and in a few hours it increased its vibrations again to 1° 35′, and continued to vibrate over that arch until it was taken down on May 10th.

On setting it up a second time at Queen Charlotte's Sound in New Zealand, I had much trouble in getting it to go at all, as most of its parts, and particularly the steel rods of the pendulum, were covered with rust. It lost at the rate of 15″,58 a day on sydereal time, from October 22d to November 5th, 1774, and went pretty regularly after I did get it to go. I here added fresh oil, and its vibrations were then 1° 37′½ each way.

At Christmas Sound in Terra del Fuego, latitude 55° 22′ S., longitude 289° 58′½ E., B gained 36″,52 a day on sydereal time, between December 23d and 26th, 1774; and the mean vibrations of the pendulum were 1° 37′½ each way. This was the highest latitude that I had an opportunity of trying it in.

March 23d,

March 23, 1775, I fet B up a fecond time at the Cape of Good Hope, and from that time to April 23, it loft at the rate of 42″,207 a day on Syderial time the pendulum vibrated 1° 37′$_r$ each way from the perpendicular until April 9, and after that time 1° 40′ Thefe matters are brought yet nearer into one point of view in the following table

Places	Clock B gains or lofes on Syderial Time	Latitude	Longitude	Time.
	′ ″	° ′	° ′	
Greenwich	+0 5,03	51 28$_T$ N	0 0	March 1772
Madeira	—0 36,6	32 33$_T$ N	17 11$_T$ W	July 1772
Cape of Good Hope	—1 15,43	33 55$\frac{1}{4}$ S	18 23$_T$ E	November 1772
Ditto	—0 42,21			April 1775
Dufky Bay	+0 4,07	45 47$_T$ S	166 18 E.	April 1773
Point Venus	—1 28,42	17 29$_r$ S	210 25$_x$ E	Auguft 1773
Ditto	—1 22,64			May 1774
Queen Charlotte's Sound	—0 21,12	41 6 S	174 18$_r$ E	November 1773
Ditto	—0 15,58			October 1774
Terra del Fuego	+0 36,52	55 22 S	289 58$_T$	December 1774

Places	Clock C lofes on Syderial Time	Latitude	Longitude	Time
Greenwich	—0 0,37	51 28$_1$ N	0 0	March 1772
Drake's Ifland	—0 20,62	50 21$_T$ N	4 16$_T$ W	July 1772
Madeira	—1 15,0	32 33$_r$ N	17 11$_T$ W	July 1772
Cape of Good Hope	—1 27,35	33 55$\frac{1}{4}$ S	18 23$\frac{3}{4}$ E	November 1772
Ditto	—1 36,02			March 1774
Ditto	—1 17,71			April 1774
Queen Charlotte's Sound	—1 29,0	41 6 S	174 18$_x$ E	May 1773
Ditto	—1 8,47			December 1773
Point Venus	—2 10,69	17 29$_r$ S	210 25 E	Auguft 1773

On reconfidering the circumftance of the Clock's different rates of going at the Cape of Good Hope in November 1772 and April 1775, I am rather inclined to alter my opinion, (fee p 131) and to

conclude

conclude that I made a miſtake in ſetting the pendulum to its proper length, either when here in November 1772, or at Duſky Bay in New Zealand, after which time it was never altered; eſpecially as the difference correſponds nearly to that which would ariſe from a whole revolution of the nut which ſupports the ball of the pendulum, namely 28″, or 29″, increaſed by the ſame quantity that the Clock had gone faſter on being ſet up a ſecond time both at Point Venus and Queen Charlotte's Sound: and it appears farther, by comparing its rate of going at the Cape with its rate at Madeira, which is nearly in the ſame latitude, that if this was the caſe, the miſtake muſt have happened on ſetting it up in November 1772. Now if this correction be allowed, this Clock will have agreed with itſelf as near, perhaps, as muſt ever be expected for any clock to do; eſpecially when ſet up at ſuch diſtant times, and put away, in the intervals, in damp and improper places, as will ever be the caſe on board ſhips, unleſs a proper place be made and fitted up on purpoſe for it: and this I think might readily be done on board any ſhip; in which caſe, it may not be uſeleſs to add, that this place muſt not be near either ſide of the ſhip, nor near the fore-part of it; and muſt be well lined with ſtrong painted canvas, and over that with thick baize. A ſpace of 20 inches, by 15 broad, and 4½ feet high would be fully ſufficient for the purpoſe.

The aſſiſtant clock had a ſimple pendulum, whoſe rod was of white deal, and was always adjuſted ſo that it would beat with the Aſtronomical Clock without ſenſible deviation for ſeveral minutes together; it ſhewed only minutes and ſeconds, was wound up in the common way that 24 hour clocks generally are, by pulling at the ſtring, and conſtructed to give a very loud beat, and to ſtrike with great exactneſs at the end of every minute, for the

convenience

convenience of catching the ſecond with more certainty in obſerving. The loudneſs of the beat is of great uſe when the wind is high; or when, on account of any other noiſe or diſturbance, the Aſtronomical Clock cannot be heard, and was particularly uſeful to us, whoſe Obſervatories ſtood generally on the ſea-ſhore, where the roaring of the ſurf ſeldom permitted us to hear the Aſtronomical Clock all the time it was going.

Of the Tranſit Inſtrument.

THIS Inſtrument being now too well known to require a general deſcription, I ſhall only juſt mention ſome particulars which are peculiar to that we made uſe of, and the manner of fixing it up. The object glaſs of the teleſcope, which was achromatic, was of 3½ feet focus, and aperture 3½ inches: it magnified about 50 times. The axis reſted on two angular pieces of bell-metal, which were attached to two ſtrong plates of braſs, about ſix inches ſquare; and theſe plates were let into two poſts of Riga timber, ſix inches by eight, and ſcrewed firmly to them by ſtrong ſcrews which came quite through the poſts from the oppoſite ſide to that which the braſs plates were let into. The angular pieces of bell-metal were made to ſlide on the braſs plates, one in a vertical, and the other in an horizontal direction, by means of very fine ſteel ſcrews, in order to adjuſt the Inſtrument, and bring it into the plane of the meridian. The poſts had each of them a double tenon at the bottom, which fitted into two double mortices in a ſill of the ſame timber, 10 inches by ſix or ſeven, and five feet in length, and they were braced together about three feet above this ſill by a horizontal brace, and at the angles by croſs braces.

When

When the Inſtrument was to be ſet up, a hole was dug five feet long, about 15 or 16 inches wide, and three feet deep, in a direction at right angles to the meridian; and the poſts and ſill, thus braced together, let carefully down into it, the Inſtrument was then put into its place, and directed to a mark which had before been determined to be in the meridian by means of the Azimuth Compaſs, after allowing for the variation, by moving the frame a little one way or other in the hole as might be required, and after that, the axis was made horizontal by hanging on the ſpirit level intended for adjuſting the Inſtrument, and raiſing one end of the ſill, or lowering the other, as was moſt convenient, until both ends of the axis were of the ſame height. The hole was then filled with earth and ſtones intermixed, and well rammed in, taking great care, in this operation, not to twiſt, or force the frame out of the plane of the prime vertical, by frequently putting the Inſtrument into its place, trying the level, and directing the teleſcope to the mark. This being done, the nicer adjuſtments of the Inſtrument were made by means of the ſcrews which govern the two angular pieces of bell-metal on which it reſts; and I never found that the Inſtrument, thus ſet up, would vary materially in its poſition.

Of the Aſtronomical Quadrant.

THIS inſtrument has been ſo well, and ſo fully deſcribed by the Rev. Mr. Maſkelyne, Aſtronomer Royal, in his inſtructions relative to the obſervation of the Tranſit of Venus (See Nautical Almanac for 1769), that little remains to be ſaid on this head. It may not however be amiſs to mention a circumſtance or two wherein my inſtrument appears to have differed from that which Mr. Maſkelyne deſcribed. And firſt, the arch of exceſs of my Quadrant, or that which

moſt exquiſite ones, and furniſhed with moveable polar axes, for the convenience of adapting them to any latitude whatſoever

Of the Hadley's Sextants

Of theſe we had each of us two, one made by Mr Dollond, with his new apparatus for adjuſting the back horizon glaſs, and the other by Mr Ramſden The latter was made by order of the Royal Society, in 1768, and I had before uſed it in my Voyage to and from Hudſon's Bay, and knew its value Its radius was 15 inches, and it was cut out of one ſolid plate of hammered braſs, about one ninth of an inch thick, leaving only the frame and croſs-braces of about one inch and one-third broad, and theſe were ſupported on the back with perpendicular, or, as they are uſually called, edge-bars, ſcrewed very firmly thereto by ſcrews, which paſſed through the frame of the Sextant into the bars themſelves The index alſo was very broad and ſtrong, and ſtiffened by a perpendicular bar, that was ſcrewed faſt on its upper ſide The maſſiveneſs of theſe bars and frame rendered the inſtrument rather heavy, but I have never met with one that preſerved its figure, plane, and adjuſtments, ſo well as this did, and theſe properties are ſo very eſſential, that I think they ſhould never be given up, or even run the leaſt riſk of having impaired, for the trifling conſideration of reducing the weight of the inſtrument a few ounces, which I never found in the leaſt inconvenient, after I became uſed to it This inſtrument had ſome diſadvantages, which are now generally remedied, ſuch as the ſmallneſs of the horizon-glaſs; and, what is much worſe, that glaſs, ſmall as it was, did not reflect a full field of view when the index was put back to its greateſt

on account of my want of time to consult a greater number of Authors, be comprised in a small compass

I have not been able to meet with the least hint of any Astronomical Instrument being used at sea before the latter end of the 15th century; about which time, as *Jo Pet Maffeius* tells us in his *Histor Indic Martin de Bohemia*, a disciple of *Regiomontanus*, recommended the Astrolabe for taking altitudes on board a ship, but, whether this was then put in practice, does not appear, and it seems much to be doubted, whether the cross-staff, which was invented about that time, or very soon after, was not the first Astronomical Instrument used at sea this at least is certain, that all the old writers, whom I have met with, speak of the cross staff as a very ancient instrument, except *John Werner* of Nuremberg, and who, as far as I can find, is the first person that has described it; but it does not appear to me, from what he there says, that he was the inventor, but rather that he looked on it as an instrument in some measure then known, and he recommends it to seamen, as proper for observing the distance of the Moon from the Sun, or a Star, in order to determine the Longitude at sea *Werner*'s book was printed in 1514, and I find the same instrument again recommended, and for the same purpose, by *Peter Apian*, in his Cosmography, which, by the date of his preface, appears to have been written in, or before the year 1524 About this time the method of finding the Longitude at sea by observations of the Moon's distance from the Sun or Stars is mentioned by several authors, and particularly by *Gemma Frisius*, in his *Principia Astronomiæ et Cosmographiæ*, printed in 1530, who also mentions the doing of it by means of a Clock or Time keeper He was also, if I mistake not, the first person who added three transums to the cross staff, which

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vations on the ufe of this inftrument, among which is a method of correcting the error arifing from the excentricity of the eye, and after mentioning this method of dividing very particularly, adds, "I freely confefs that this method of dividing the ftaff into many fenfible parts was not invented by me, *but had been long ufed in England* by many fkilful mathematicians The firft who ufed it, as I am well informed, was Richard Chanceler, a moft fkilful and ingenious mathematical inftrument-maker, and whofe name I more readily publifh, as he is now dead, and has left behind him no memorial of his excellency, except fome inftruments fabricated with the greateft art and exactnefs, and the fweeteft memory of his ufefulnefs and fkill in the minds of a few mathematicians yet alive"

I have been thus particular, becaufe *Tycho Brahe*, at p 403 of his works, publifhed at Franckfort in 1648, giving an account of the fame ftar, takes notice of this paffage of Mr Digges's, and adds, "But when I ftudied at *Leipfic* about twenty eight years ago, I ufed a crofs-ftaff thus divided, which I had out of the fhop of that excellent mathematician *Homelius*, by favour of his fervant *Bartholomew Schultet* but whence *Homelius* had this, or whether he himfelf invented it, is with me uncertain" It is plain, from the very words here made ufe of, that *Tycho* meant to difpute the claim fet up by Digges, for his deceafed friend, to the invention, but I think with little probability of fuccefs for *Tycho* did not go to *Leipfic* before the year 1562, or 1563, as we learn from the account of his life, written by *Gaffendus*, and *Tycho* himfelf, in his epiftle to *Christopher Bothman*, written in 1587, and printed at Uranibourg in 1596, fays he was then about feventeen years old; which, as he was born in the year 1546, muft have been in 1563, that is, about ten years only before Mr Digges wrote Now Digges exprefsly fays, that the

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printed at Bruſſels in 1631 In the preface to this publication *Vernier* claims the invention as his own, and very juſtly obſ[illegible] that by this method, minutes are eaſily diſtinguiſhed in q[illegible], add of three inches radius, the truth of which I have myſ[illegible] [illegible] often convinced of in inſtruments of Mr Ramſden's making [illegible] *E*

The fore ſtaff and aſtrolabe appear to have been the only inſtruments that were uſed at ſea before the latter end of the ſixteenth century, about which time the back-ſtaff, as it was then called, on account of the obſerver's ſtanding with his back to the ſun, began much to be made uſe of This inſtrument was invented by the celebrated Captain John Davis, who gave name to the Straits which ſeparate Weſt Greenland from America, and was by him firſt deſcribed, in a little book called the Seaman's Secrets, publiſhed in 1594, but this book I have not been able to meet with, however, there is a deſcription of the inſtrument, together with a repreſentation thereof, given by *Adrian Metius*, in his *Aſtronomia Inſtitutio*, printed in 1605, and afterwards in his tract *De Arte Navigandi*, publiſhed at *Franckfort* in 1624, alſo in his *Doctrinæ Sphericæ*, lib 5 publiſhed at the ſame place, in 1630

Originally this inſtrument had but one arch, namely, that on which the ſight-vane ſlides, and the ſhade-vane was fixed on a ſtraight rod, morticed into the upper ſide of the radius of the inſtrument, at a greater diſtance from the center, or horizon vane, than the arch itſelf but it did not long retain that form, for about the year 1600, or ſoon after, the arch was extended up to 90°, partly below, and partly above the radius, and the ſhade-vane fixed on that, to any propoſed, even degree that was found moſt convenient, and in this ſtate it was generally known by the name of the bow It was not, however, many years before it under-

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ſome others, and the laſt, the plough, Elton's, and many other quadrants none of which remained long in uſe, and very few deſerved to have been uſed at all

I come now to relate the inventions of inſtruments for meaſuring angles by reflection, the firſt hint of which was, I am firmly perſuaded, given by that truly ingenious and indefatigable mechanician, Dr Hooke, about the year 1681, as appears from Dr Birch's Hiſtory of the Royal Society, vol iv p 102, and alſo from his Life and Poſthumous Works, p xxiii and 503, publiſhed by R Waller, Eſq, in 1705; but the angles, in his inſtrument, being meaſured by one reflection only, rendered it not ſo convenient for ſea purpoſes as it would otherwiſe have been The next who *publiſhed* any thing on this head, was John Hadley, Eſq, Vice preſident of the Royal Society, and at that time famous for having perfected, and brought into uſe, the reflecting teleſcope This Gentleman, on the 13th of May 1731, preſented to the Royal Society an inſtrument conſtructed in pretty near the ſame form that they now are, and alſo a deſcription of the ſame, in which he gave a very full account both of the theory and manner of uſing this inſtrument But although Mr Hadley was the firſt who publiſhed, yet it is no leſs certain that the incomparable Sir Iſaac Newton had long before that time invented an inſtrument of this kind differing little from that of Mr Hadley's, except in the manner of applying the teleſcope But this, like many other of Sir Iſaac's diſcoveries, was not publickly known till ſeveral years afterwards, namely on the death of Dr Halley in 1742, when a paper, in Sir Iſaac's own hand writing, containing a deſcription of the inſtrument, was found amongſt the papers of that gentleman, and it was publiſhed, together with a drawing of the inſtrument, in N° 465 of the Philo-

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went another alteration, and received its preſent form For the ſhade vane being then placed at a great diſtance from the horizon vane, the penumbral ſhade became ſo extenſive, that neither its beginning, end, or center, could be judged of with any tolerable degree of certainty, and what was yet worſe, if the ſun did not ſhine very bright indeed, the ſhadow could not be ſeen at all it was therefore deemed neceſſary to leſſen the radius of that part of the arch on which the ſhade vane is fixed, in order to obtain a more diſtinct, and ſtronger ſhadow It is not now known to whom we owe theſe improvements ſome think they were made by the inventor himſelf but this I much doubt The laſt improvement that was made to this inſtrument, at leaſt of any conſequence, was the ſubſtitution of a lens, whoſe focal length was juſt equal to the radius of the leſſer arch, inſtead of the ſhade-vane This, although in itſelf ſo ſimple, was a very conſiderable improvement to the inſtrument, for the ſpot of light, formed on the horizon vane in the focus of the glaſs, will be bright enough to be ſeen very diſtinctly, when the ſun is ſo very faint that the leaſt trace of the ſhadow from the vane cannot be diſcerned It is ſaid poſitively, at p -50, vol 1 of Sir Jonas Moore's New Syſtem, that this was the invention of Mr Flamſteed the firſt Aſtronomer-Royal, but others ſay it was contrived by the late Dr Edmund Halley, and adapted to that inſtrument in his voyage to the Iſland of St Helena in 1677 It is not improbable that both might think of it

Theſe three inſtruments, namely the aſtrolabe, fore-ſtaff, and Davis's quadrant, underwent many other alterations, and appeared under a great variety of ſhapes that are not taken notice of above From the firſt came the ſemi circle, the ſea-rings, and ſea quadrant, the ſecond produced the demi croſs, Mr Hood's ſtaff, and

ſome others; and the laſt, the plough, Elton's, and many other quadrants: none of which remained long in uſe, and very few deſerved to have been uſed at all.

I come now to relate the inventions of inſtruments for meaſuring angles by reflection, the firſt hint of which was, I am firmly perſuaded, given by that truly ingenious and indefatigable mechanician, Dr. Hooke, about the year 1681; as appears from Dr. Birch's Hiſtory of the Royal Society, vol. iv. p. 102, and alſo from his Life and Poſthumous Works, p. xxiii and 503, publiſhed by R. Waller, Eſq; in 1705; but the angles, in his inſtrument, being meaſured by one reflection only, rendered it not ſo convenient for ſea purpoſes as it would otherwiſe have been. The next who *publiſhed* any thing on this head, was John Hadley, Eſq; Vice-preſident of the Royal Society, and at that time famous for having perfected, and brought into uſe, the reflecting teleſcope. This Gentleman, on the 13th of May 1731, preſented to the Royal Society an inſtrument conſtructed in pretty near the ſame form that they now are, and alſo a deſcription of the ſame; in which he gave a very full account both of the theory and manner of uſing this inſtrument: But although Mr. Hadley was the firſt who publiſhed, yet it is no leſs certain that the incomparable Sir Iſaac Newton had long before that time invented an inſtrument of this kind, differing little from that of Mr. Hadley's, except in the manner of applying the teleſcope. But this, like many other of Sir Iſaac's diſcoveries, was not publickly known till ſeveral years afterwards; namely, on the death of Dr. Halley in 1742, when a paper, in Sir Iſaac's own handwriting, containing a deſcription of the inſtrument, was found amongſt the papers of that gentleman; and it was publiſhed, together with a drawing of the inſtrument, in N°. 465 of the Philo-

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fophical Tranfactions for the year 1742 As there was no date to this paper, the exact time of Sir Ifaac's difcovery cannot now be afcertained there is not, however the leaft doubt of its being long prior to Mr Hadley's in 1731, as Sir Ifaac Newton died in 1727, and for fome years before, had not thought much of thefe things, it is therefore matter of much furprize that Dr Halley fhould not recollect, and produce this paper of Sir Ifaac's, when Mr Hadley's was publicly read, and thereby fecure to his, then lately deceafed, and ever to be admired friend, the prior invention of this moft excellent inftrument, to which he had, without doubt, an inconteftible right It is alfo moft probable that Dr Halley could have decided whether or not Sir Ifaac's thought was prior to Dr Hooke's in 1681, as Mr Stone will have it in his Appendix to the Tranflation of Bion's Inftruments, where he fays, " The firft of thefe inftruments for taking the moon's diftance from the fun, was invented long ago by Sir Ifaac Newton, as appears in a paper of Sir Ifaac's own hand writing, found amongft thofe of the late Dr Halley, and the very inftrument itfelf, that Sir Ifaac either made, or caufed to be made, fo long ago as when Dr Halley went about making the catalogue of the ftars in the Southern hemifphere, which was in the year 1672, was not long ago to be feen at Mr Heath's in the Strand' But little dependence can be placed on what he has here advanced That an inftrument of this kind may have fome time been made by Sir Ifaac's direction, is very probable, but not at the time here mentioned for in the firft place, Dr Halley did not fet out for Saint Helena until the latter end of 1676, that is, at leaft four years after the time mentioned by Stone and it is almoft as certain, that when he did go, he had no inftrument like this with him, becaufe in his Tract entitled *Catalogus Stellarum Auftralium*, publifhed after his return, in 1679, and which is now before

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me, he gives a lift of the inftruments that he was provided with on that occafion, in which no inftrument of the kind appears; and it is fcarcely to be credited that he would leave out of the catalogue an inftrument which he muft have found fo ufeful, and that had been invented by fo great a man, exprefsly on that occafion, and for the purpofe of obferving the moon's diftance from the fun and ftars, if any fuch inftrument had at that time exifted; and more efpecially, as it is well known that the Doctor had always that method of finding the longitude much at heart, and he repeatedly mentions it in this publication *.

If this inftrument was ever made at all for Dr. Halley, it is moft probable that it was done about the time when he went, in the Paramore Pink, to obferve the variation of the compafs; that is, in the years 1698, 1699, and 1700: although I cannot help thinking that if he had then had any inftrument of the fort, he would have left fome account of its fuccefs in his journals, which, as far as I can find, he has not done.

The principle on which this moft excellent inftrument is founded, is fo natural and obvious, that no lefs than five perfons have come to my knowledge, exclufive of Dr. Hooke, who ufed but one reflection, that have invented and made it, independent of one another; and that nearly in the fame form. After Sir Ifaac Newton and Mr. Hadley, or rather before the latter, Mr. Thomas Godfrey of Philadelphia, invented a quadrant to meafure angles by reflec-

* Since writing the above, I have been informed that at the time when Mr. Hadley's paper was read, Dr. Halley did declare he had one of Sir Ifaac Newton's, defcribing an inftrument fimilar to Mr. Hadley's, and which was given to him in 1700, or 1701; but that he did not then know where to find it.

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tion, which was ſent to ſea about the latter end of the year 1730 but I cannot find with what ſucceſs, nor yet in what manner it was conſtructed, whether he uſed two reflections or only one. The next, in point of time, was the late Joſeph Harris, Eſq, ſometime Warden of the Mint, and who, as I have been very credibly informed, invented an inſtrument of this ſort, without knowing that any thing of the kind had been done before. And, laſtly, it inconteſtably appears, from ſeveral letters to the late Rev Mr Rowning, that the ſame thing was again done, about the years 1752 or 1753, by Mr George Holroyd, a very ingenious mechanician, then of the city of York, but now of Great Queen-ſtreet, Lincoln's-Inn Fields, together with ſome ingenious improvements, which ſhall be mentioned hereafter.

But, notwithſtanding theſe inventions of private gentlemen, which were laid aſide as ſoon as the reſpective authors came to know what had been done by others, who had gone before them, few or no attempts were made towards improving the conſtruction of this inſtrument from the time of its diſcovery by Mr Hadley, until after the year 1745, about which time his patent ended, and the only conteſt among the generality of inſtrument-makers, after it got into their hands, was to try who could make it for the leaſt money; which, it will readily be conceived, did not add much to its accuracy. Indeed, to ſuch a deplorable ſtate was this moſt excellent inſtrument reduced about the year 1750, that *M De la Caille* aſſures us in his *Ephemerides des Mouvemens Celeſtes* for the years 1755 to 1765, two perſons, obſerving at the ſame time, with two of the beſt quadrants that *they* had, and with the greateſt care, would frequently differ 6, 7, and even 8 minutes, in the ſun's altitude. We may indeed conclude, that either theſe inſtruments were made in France,

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or that proper care had not been taken in procuring them from good makers in England; for at all times inftruments, fufficiently exact for obferving altitudes, were to be had here, either from Mr. Jackfon, who had made them for Mr. Hadley, under his patent; or, after his deceafe, from Mr. Bird.

The firft perfons, that I know of, who applied this quadrant to the actual meafuring of diftances, were Dr. Bradley, then Aftronomer Royal at Greenwich, and Capt. John Campbell of the Royal Navy. The latter, about the year 1747, having, for his own amufement, meafured the diftances of feveral fixed ftars with a quadrant of Jackfon's making, fhewed them to Dr. Bradley, who found them to correfpond very exactly with their true diftance in the heavens: and after this time, thofe gentlemen frequently made obfervations of the moon's diftance from the fun and ftars, and alfo of ftars from one another, in company at Greenwich. In the courfe of thefe tranfactions, Dr. Bradley fhewed Capt. Campbell an inftrument, which had been contrived on purpofe for making thefe obfervations by Mr. Hadley, and which was fomething like the Newtonian form; only the fmall fpeculum was made to flide in a grove, fo as to ftand either to the right or left of the great one, for the convenience of meafuring the moon's diftance from objects on both fides of her, without turning the plane of the quadrant downwards, as is now done, and which at that time was thought very inconvenient. Dr. Bradley had alfo by this time greatly improved Dr. Halley's Lunar Tables, and began to entertain great hopes of effecting thereby the fo much wifhed-for method of finding the longitude at fea, by obfervations of the moon's diftance from the fun and fixed ftars; and the rather, as Mr. Bird had now begun to apply himfelf to improve the Hadley's Quadrant, in

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which, the principal defect, then complained of, was its bending when inclined out of a vertical position, and he succeeded so well, that in the year 1750, the late ingenious Mr Benjamin Robins made those observations with great success, in his voyage to the East Indies, with quadrants of only 7 inches radius

The illustrious Sir Isaac Newton had, long before, laid the foundation of the Lunar theory in his *Philosophiæ Naturalis Principia Mathematica* and about this time, many learned persons, both at home and abroad, turned their thoughts, either towards explaining and reducing that theory into tables, or to the making of observations for establishing those points which theory alone could not give, as well as for perfecting and examining the tables after they were made: for experience had by this time abundantly shewn, that accurate tables were not to be expected from theory alone. Amongst those who have exerted their talents this way, we may particularize the Rev Dr. Bradley and Mr Thomas Simpson at home; and the celebrated *Euler*, *Clairaut*, *Mayer*, *D'Alembert*, *Walmsley*, and many others, abroad Of those who applied themselves to the practical part, none did so much as our countryman Dr Bradley, whose skill, accuracy, and assiduity in the making of observations, undoubtedly left all his contemporaries far behind, but it must be owned, on the other hand, that the foreign mathematicians far outstripped us in the business of theory; owing, no doubt, to the diligence with which they have cultivated the modern method of analysis Amongst those, none have distinguished themselves more than Messrs *Euler*, *Clairaut*, and *Mayer*; and if the two former have, in some respects, shewn greater depths of mathematical knowledge, the last has been much more happy in a skilful arrangement of his tables, for the ease and expedition of computation.

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In confequence hereof, M. *Euler* publifhed his Lunar Tables in the *Almanac Aftronomique*, printed at Berlin for the year 1750; M. *Clairaut*'s Tables came out in the year 1752, in anfwer to the Prize Queftion, which had been propofed by the Imperial Academy of Peterfburgh in 1750; and M. *Mayer*'s, in the Gottingen Acts for 1753; in which he not only excelled both the former in eafe and elegance of computation, but in exactnefs alfo; owing, perhaps, in fome meafure, to the ufe which he made of a number of Dr. Bradley's obfervations, that had been fent by the late Mr. Gael Morris to M. *Euler*; and by him given to M. *Mayer*. In thefe Tables, the errors in longitude no where amounted to more than two minutes: and having yet farther improved them in 1755, he fent them over to the Right Honourable the Lords Commiffioners of the Britifh Admiralty, with a claim to fuch part of the reward, offered by Parliament for the difcovery of the longitude at fea, as they might be thought to deferve. He alfo fent over at the fame time a drawing and defcription of an inftrument for meafuring angles by reflection; both of which are inferted at the end of his Lunar Tables, fince printed by order of the Commiffioners of Longitude. This inftrument is chiefly calculated to obviate the errors which might arife in fetting off the total arch in inftruments lefs than a complete circle, as well as the irregularities that may happen in the intermediate divifions.

Thefe Tables were very carefully compared by Dr. Bradley with a great number of obfervations of the moon, made by himfelf at Greenwich, with the new inftruments; and he fays, that "in more than 230 comparifons they no-where differed from the obferved longitudes fo much as one minute and an half." As this quantity included both the error of the Tables and that of the Obfervations

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alſo, Dr Bradley inferred that the Tables muſt have generally given the moon's place true within little more than a minute of a degree, and therefore that the difficulty of finding the longitude at ſea, by obſervations of the moon, ſo far as related to the accuracy of the Tables, was in a great meaſure happily got over, and that it only remained to prove whether or not the neceſſary obſervations could be made at ſea with ſufficient accuracy

In conſequence of this repreſentation, the Commiſſioners of Longitude ordered two of Mr Mayer's circular inſtruments to be made, by Mr Bird, and Captain Campbell, who had before given indubitable proofs of his ſkill and exactneſs in making obſervations of this ſort, was deſired to make trial of them at ſea, as well as of Mr Hadley's quadrant Accordingly, this excellent obſerver, and alſo Mr John Bradley, nephew to Dr Bradley, and now ſecond Maſter at the Royal Academy at Portſmouth, made a great many obſervations of the moon's diſtance from the ſun and fixed ſtars, in the years 1757, 1758, and 1759, which were afterwards computed by Dr Bradley, and found to correſpond, in a moſt ſurpriſing manner with one another, and alſo with the longitudes of known places, within ſight of the ſhip when the obſervations were made In the courſe of theſe trials, it did not appear that the Hadleys quadrants were liable to any conſiderable errors, of the kind that Mr Mayer's inſtrument was intended to remove, and as that inſtrument is very limited in the extent of its radius, without becoming heavy and inconvenient, it was then totally laid aſide.

In this ſtate were theſe matters ſituate in the year 1760, when all the learned Societies and Academies of Europe began to prepare for obſerving the Tranſit of Venus, over the Sun's diſc, in 1761; which

which our learned countryman, Dr. Edmund Halley, had, with immortal reputation to himſelf, foretold, and ſhewn the uſe which Aſtronomers might make of it, more than eighty years before it happened. This was a favourable opportunity for all thoſe who were employed to make that important obſervation, and had the method of finding the longitude at ſea by obſervations of the moon at heart, to exert themſelves in reducing, and bringing it into practice: and in this reſpect none exerted themſelves more, or with greater ſucceſs, than our preſent Royal Aſtronomer, the Reverend Nevil Maſkelyne. This ingenious and learned Gentleman, not only made a great number of thoſe obſervations with ſucceſs himſelf, but alſo ſo far convinced the officers of the ſeveral ſhips, which he ſailed in, of the eaſe and certainty wherewith they could be made, and the utility they were of, that the method ſoon came almoſt univerſally into uſe in the Eaſt India Company's ſervice, and has now been long eſtabliſhed, as a branch of knowledge, abſolutely neceſſary, in their naval officers. On his return home, he publiſhed the methods he had made uſe of, together with many excellent modes of abbreviating the computations, which at that time were tedious enough, and not to be effected with leſs than three or four hours labour by the moſt ſkilful computer, under the title of The Britiſh Mariner's Guide to the Diſcovery of the Longitude at Sea. In the ſame work he gave ſeveral methods, which before that time were not generally known, or made uſe of, for adjuſting, and examining the Hadleys Quadrant with greater accuracy, as well as many other curious and uſeful hints, not ſo immediately relating to the ſubject before us, but which are nevertheleſs of great conſequence to the mariner, and I believe now frequently uſed. Laſtly, he recommended the publication of a Nautical Almanac, on a plan

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fomething fimilar to that which had formerly been fuggefted by *M De la Caille*, on which account he prefented his book to the Commiffioners of Longitude for their concurrence therein

In the mean time we had the misfortune to lofe two of the greateft Aftronomers that perhaps the world had ever produced, and who, of all men, had done moft towards promoting and perfecting this method, namely, the Reverend Dr James Bradley, Aftronomer Royal at Greenwich, and Savilian Profeffor of Aftronomy at Oxford, and Mr Tobias Mayer, Profeffor of Oeconomy in the univerfity of Gottingen, and author of the Lunar Tables, which have already been mentioned The latter having been furnifhed with moft excellent inftruments, made by the late Mr Bird, through the munificence of his late moft gracious Majefty King George the Second, to the ufe of which he applied himfelf with unremitting ardour, had, by comparing his obfervations made therewith, as well as thofe which he had formerly received from his ingenious contemporary Dr Bradley, with the numbers refulting from the theory, fo far perfected the Lunar Tables before his death, that his widow was enabled to fend over, in 1763, a fet that did not differ more than one minute of a degree from any of Dr Bradley's obfervations, except in a very few inftances, moft of which had been marked by the obferver as very dubious obfervations; but in much the greater number, the errors did not amount to quite half a minute

The comparifons of thefe new Tables with Dr Bradley's obfervations were made by the late very ingenious Mr Gael Morris, and who, by comparing the Tables which Mayer firft fent over with Dr Bradley's obfervations, and altering the maximums of the equation where the obfervations feemed moft to require it, had at that time

time composed Tables of the moon's motions, which at all times give the moon's place in the Heavens to a very great degree of exactness: but having been indebted to Mr. Mayer both for his form and theory, he would never be prevailed on in his lifetime to let them be made public, lest they might be thought to interfere in the claim set up by that deserving Astronomer, to the reward granted by Parliament for the discovery of the longitude at sea.

The accuracy of the Tables, and the practicability of making the observations, being thus ascertained, many ingenious Gentlemen began to turn their thoughts towards reducing the length and difficulty of the computations; amongst whom, my truly worthy and ingenious friend, Mr. George Witchell, head-master of the Royal Academy at Portsmouth, was peculiarly happy in hitting on a device for throwing the whole of that part of the computation which relates to the reduction of the apparent to the true distance of the moon and stars, on account of parallax and refraction, into Tables; from whence it may, in many cases, be taken, almost at sight, and in the most troublesome ones by very easy proportions. This method was proposed to the Commissioners of Longitude in the month of September 1764, and so well approved of, that the Commissioners ordered him a gratuity of 300 *l.* and the tables to be computed and printed, which has since been done, with the addition of a column for correcting the effects of refraction, on account of the variable density of the atmosphere, under the inspection of the Rev. Dr. Anthony Shepherd, Plumian Professor of Astronomy and Experimental Philosophy in the University of Cambridge, and Master of Mechanics to his Majesty. By the help of these Tables, as I can from long experience assert, the abovementioned reduction may generally be made in about three minutes, and always in five.

Mr.

Mr Witchell, at the fame time, propofed the publication of a Nautical Almanac, and delivered in a plan on which it might be executed and Meffrs Dunthorne and Lyons, very foon after, produced excellent Compendiums for abridging this reduction, by means of fhort tables and rules; and for which they were each of them rewarded with a gratuity of 50 l and their methods ordered to be printed.

Very early in the fpring of the year 1765, the Rev Nevil Mafkelyne being then returned from his voyage to Barbadoes, whither he had been in confort with my brother in-law, Mr Charles Green, to make obfervations for the trial of Mr Harrifon's Time keeper, and in which voyage they had both of them had abundant proofs of the poffibility of making the lunar obfervations with eafe and exactnefs, was, on account of his many eminent fervices to, and great fkill in the fcience, made Aftronomer-Royal at Greenwich, on the deceafe of the Rev Mr Blifs, who had fucceeded Dr Bradley in 1762 and having now a feat at the Board of Longitude, again preffed the publication of a Nautical Almanac, and backed the memorial, which he then delivered in, with the teftimony of feveral gentlemen in the Eaft India Company's fervice, who all concurred in declaring their opinions, that fuch a publication would be of the utmoft utility to navigation In confequence of thefe reprefentations, the Commiffioners applied to Parliament for authority to print and publifh fuch an Almanac, which was granted by an act, made in the fifth year of the reign of his prefent Majefty, and in confequence thereof, proper perfons were employed, and the firft Almanac, of this kind, was computed and publifhed for 1767, and they have been continued ever fince, being publifhed feveral years in advance for the benefit of thofe who make long

voyages. The ſame act ordered a reward of 3000 l. to be given to the widow, or other repreſentatives of the late Mr. Tobias Mayor, author of the Lunar Tables; and alſo 300 l. to the celebrated Mr. Euler, for what he had done in reducing Sir Iſaac Newton's Theory of the Moon into neat analytical expreſſions, of which Mr. Mayer had availed himſelf, and from whence, by a very ſingular addreſs of his own, had contrived to bring out the greateſt quantities of the equations with eaſe and exactneſs.

But although matters were thus far happily advanced, it was not propoſed to reſt here. The Rev. Mr. Maſkelyne having compared Mr. Mayer's laſt Lunar Tables with more obſervations, conceived hopes of bringing them to agree yet nearer with obſervation. Accordingly, with the approbation of th Board of Longitude, the equation tables were recomputed from numbers which he had reaſons to think were nearer to the truth: he alſo directed that thoſe tables ſhould be continued to tenths of ſeconds, in order that fewer errors might happen from the omiſſion of the fractional parts which ariſe in computation. Theſe Tables have ſince been printed, and it is from them that the computations in the Nautical Almanac are now made. Moreover, two moſt excellent and accurate methods of reducing the obſerved diſtance of the moon from the ſun, or a ſtar, to the true, have been invented, and publiſhed in the Nautical Almanac for 1772. We are indebted for one of them to the Rev. Navil Maſkelyne, Aſtronomer-Royal; and for the other to Mr. George Witchell, Head Maſter of the Royal Academy at Portſmouth.

By theſe means, namely, the Nautical Almanac, and the ſeveral methods deſcribed above, of abridging the reduction of the apparent diſtance to the true, on account of parallax and refraction, the

computations

computations, attending this method of finding the Longitude, may be performed in 15 or 16 minutes by a very moderate computer; although formerly it could not have been done in less than three or four hours by the most skilful. But notwithstanding this, there yet remained many things to be done, and great difficulties to be got over. It had yet been practised by very few persons except such as were fond of Astronomical matters, and it could not be supposed that the generality of seamen or even any considerable part of them, should be so and it is not an easy matter to induce people, of any denomination, to take the trouble of putting in practice the schemes of other persons, unless they are previously well assured of their success, which was by no means the case here, as every seaman, without exception, had been taught, from his infancy, to look on these things as impracticable. The Right Honourable the Lords Commissioners of the Admiralty took every step in their power to encourage the practice of this method in the Royal navy, but notwithstanding this, it was rather fortunate that another transit of Venus was to be observed in 1769, which, together with the voyages, lately undertaken for discoveries towards the South, have carried many persons abroad, who, either by inclination or situation, were interested in its success, and of course exerted themselves in the practice of it, and their example has, perhaps, contributed more towards bringing it into use, than every thing else put together.

As the practice of this method became more extensive, many little defects were discovered in the instruments, which had either escaped notice before, or not been much attended to. Among these, the most material were the want of accuracy in the divisions of the arch, and the errors arising from a want of parallelism in the

the two ſurfaces of the glaſs ſpeculums. The former, Mr. Bird had ſhewn might be avoided by a ſkilful workman, and received 500 l. from the Board of Longitude for his excellency therein; and it is now completely removed by Mr. Ramſden, by his curious invention of a machine for dividing circular arches in Aſtronomical inſtruments; and for which he, alſo, received a very handſome gratuity from the ſaid Board. This machine divides with ſo much certainty and exactneſs, that a quadrant, which had been divided by his apprentice therewith in the preſence of ſeveral of the Commiſſioners of Longitude, and afterwards examined with the utmoſt rigour by Mr. Bird, was found not to err, in any part, fifteen ſeconds of a degree; for Mr. Bird himſelf aſſured me, that if it had, he was certain of diſcovering it. The ſame ingenious Gentleman has now under conſideration a machine, of a ſimilar kind, for dividing ſtraight lines with equal accuracy, certainty, and expedition.

The latter, namely, the errors ariſing from a want of parrallelism in the two ſurfaces of the glaſſes, has alſo been well provided againſt, at leaſt in the index-ſpeculum, by the Rev. Mr. Maſkelyne, our preſent Aſtronomer-Royal; and which he has deſcribed in ſome very intereſting remarks on the Hadley's Quadrant, publiſhed in the Nautical Almanack for 1774. This moſt excellent improvement is effected by leaving the upper part of the index-ſpeculum unſilvered, and making that part of the glaſs rough on the back, and covering it with a ſort of black paint; whereby all the rays are abſorbed, which are not reflected from the firſt ſurface; and which, I will be bold to ſay, is one of the greateſt improvements that have been made to this inſtrument ſince its invention. Mr. George Holroyd, mentioned above as one of the inventors of Hadley's Quadrant, had alſo a thought of this kind for remedying

thefe errors, as appears from a Quadrant, which I have feen, that was made for him by Mr Dollond about the year 1765 I have alfo feen fome contrivances, of the fame Gentleman, for removing thefe errors, by making the fpeculums of a fort of opaque glafs, and alfo of a compofition fomewhat refembling enamel, which might not, perhaps, be unworthy of a trial

In the fame paper, Mr Mafkelyne has given many excellent rules and directions concerning the fize, height, and manner of filvering the glaffes, the aperture of the telefcope, and the means of adjufting it parallel to the plane of the quadrant, and he directed that two thick filver wires fhould be placed in the focus of the eye-glafs of the telefcope, dividing the diameter of the field of view into three equal parts, for that purpofe at the fame time fhewing many other ufeful purpofes that thefe wires might be applied to

I have obferved before, that Mr Bird was the firft who applied perpendicular bars to fupport, or ftrengthen the plane of this quadrant but the index being yet made of a broad, thin bar of brafs, was liable to be bended, either towards, or from the plane of the quadrant, and of courfe the center-work was very much expofed to damage To prevent this, the fame Gentleman, firft of any perfon that I know of, applied a perpendicular bar to the face of the index, which it was then fuppofed would render thefe very delicate parts of the inftrument perfectly fecure But, fuch are the imperfections of the very beft materials we are poffeffed of, that it was foon after difcovered, the index of a Hadley's Quadrant, ftrengthened even in this manner, was yet liable to bend in the direction of its breadth, or, which is the fame thing, in the direction of the plane

of the angle to be meafured; and that merely with the fmall force which is neceffary to overcome the friction of the center-work! A thing fo incredible, that the late Mr. Bird, who certainly knew the inftability of metals as well as any man, could not be perfuaded of its poffibility, until Capt. Campbell, who firft difcovered this defect, fhewed it to him, by releafing the clamp which faftens down the index, and pufhing the index gently along with his thumb; when, on fuddenly removing it, Mr. Bird faw, with his own eyes, the index fpring back again to a very fenfible diftance. And this error will be very confiderable indeed, if by any mifchance the fcrew, that binds in the center-pin, fhould have been fcrewed up a little too tight. To prevent this, Mr. Bird, in all the quadrants which he made towards the latter part of his time, provided a thin, circular plate of hammered brafs, beaten hollow on one fide; and cut, by many ftraight flits, from the circumference almoft to the centre, where it was perforated, of a fufficient width, to receive the binding-fcrew of the center-work freely. This plate being put over the center-pin, with the hollow part towards the back of the quadrant, and the binding-fcrew put through the perforation into its place, the plate will then act as a fpring againft the back of the quadrant, and by its yielding prevent the center-work from being drawn too tight by the fcrew, and yet hold it with fufficient force to prevent any fhake in it. But as there are many quadrants, which are not made in this manner, and as it is poffible this apparatus may not always anfwer the purpofe intended, fo completely as might be wifhed for, I would advife every obferver to move the index of his quadrant different ways between the obfervations; that is, to fet the objects open, and make them overlap, alternately. By thefe means they are brought into contact, by moving the index different ways; and

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on that account, the errors arifing from this caufe will be alternately negative and affirmative, and of courfe, if an equal number be taken both ways, will nearly deftroy one another This method will alfo have a tendency to correct any errors, which might otherwife arife from a faulty habit, that the obferver may have contracted, in forming the contact of the two objects; and is what I always ufed without ever finding any bad confequence arifing from it, but that of making the obfervations look a little irregular, which will be more or lefs according to the joint quantity of thefe two errors

By fuch fteps have the Inftruments, as well as the practice of Nautical Aftronomy, arrived to their prefent degree of perfection, and it fully appears from the preceding Narrative, how great a part is owing to the rewards held forth, and the generous encouragement given, by the Board of Longitude, to ingenious men of all denominations, for inventions and improvements, that in any way conduce to the advancement of Aftronomy and Navigation, and alfo of what vaft utility that inftitution has been of to thefe flourifhing and opulent kingdoms

As I have fpoken rather warmly in favour of the method of finding the longitude by obfervations of the Moon's diftance from the Sun and Fixed Stars, it may perhaps be expected that I fhould deliver my opinion concerning the accuracy wherewith they can be made, and what may be expected from the inftrument of which I have faid fo much It muft be owned, there is yet fomething in the conftitution of this Quadrant very difagreeable, and not eafily to be accounted for Sometimes, for many months together, the longitudes deduced from obfervations made about the fame

time with my two Sextants, would not differ more than 10 or 15 miles, and very feldom fo much; after which the longitudes, fo deduced, would begin to differ, and that difference would gradually increafe, fometimes to more than a degree and an half: In a little time it would again decreafe, and foon after the obfervations would agree as well as ever. It will readily be fuppofed, that no means were left untried by me to difcover the caufe of this ftrange aberration; but all my endeavours were ineffectual; and I mention the circumftance to induce fome perfon, more fkilful in mechanics, to attempt it.

With refpect to the exactnefs that thefe obfervations may be made with, I fhall beg leave to relate two plain matters of fact, which will fhew what can be done in this refpect, better than a thoufand opinions. I reduced ten obfervations, all taken within the fpace of half a lunation before our arrival at the Cape of Good Hope, to that place, by means of Mr. Kendall's Watch; and alfo as many taken after leaving it, by the fame means: the refult of the former gave the longitude of the Cape Town 18° 10′ E., and of the latter 18° 23′$\frac{1}{2}$ E. Their mean is 18° 16′ 50″ E.; differing 6′ 25″ from its true longitude, as determined by Meffrs. Mafon and Dixon. Again, the mean of four lunar obfervations, taken immediately before our arrival at St. Helena, gave its longitude 5° 30′$\frac{1}{2}$ W., when reduced thither by Mr. Kendall's Watch: four, taken immediately after leaving it, and reduced to that place in the fame manner, gave its longitude 6° 20′ W. Their mean is 5° 55′$\frac{1}{10}$ W., which differs but 6′ 6″ from its true longitude, as found by the Rev. Mr. Mafkelyne, by a great number of aftronomical obfervations made on fhore. I therefore conclude, that, with very little trouble, the longitude of a fhip, at fea, may generally be had by this method, within

about

about the one-fixth part of a degree, or at moft, the one-fifth ——I fhall now proceed to defcribe the reft of the inftruments made ufe of in this expedition

Of the Azimuth Compaffes

BESIDES that of Mr Adams's making, which belonged to the Board of Longitude, and was of the late Dr Knight's conftruction, we had two others, belonging to the fhip One of thefe alfo was of Dr Knight's conftruction, and made by the fame artift, and the other by Mr Gregory, with fome alterations of his own, confifting chiefly in the fize of the inftrument, the weight and ftrength of its parts, and their manner of fufpenfion, which was on friction wheels every one of thefe, I conceive, were conducive either to leffen its motion, or render it more regular, and of lefs effect Indeed I muft obferve, that Dr Knight's Compaffes, as they are now made, are very defective in thefe particulars, feeing that the leaft motion of the fhip throws them into diforder, and they are not readily made fteady again, which renders them very trouble-fome to obferve with, and perhaps not quite fo accurate as they might otherwife be

I cannot pafs this article over without making a remark or two on the irregularities which we found in the Obfervations, made with thefe inftruments In the Channel of England, the extremes of the obferved variations were from 19°¼ to 25° and all the way from England to the Cape of Good Hope, I frequently obferved differences nearly as great, without being able, any way, to account for them, the difference in fituation being by no means fufficient Thefe irregularities continued after leaving the Cape, which, at length, put me on examining into the circumftances under which

 they

they were made In this examination it soon appeared, that when most of those observations were made, wherein the greatest West variations had happened, the ship's head was North and Easterly; and that when those, where it was least, had been been observed, it was South and Westerly I mentioned this to Captain Cook, and some of the Officers, who did not at first seem to think much of it, but as opportunities happened, some observations were made under those circumstances, and very much contributed to confirm my suspicions, and throughout the whole voyage I had great reasons to believe, that variations observed with a ship's head in different positions, and even in different parts of her, will differ very materially from one another; and much more will variations, observed on board different ships, which I now find fully verified, on comparing those which were made on board the Adventure with my own, made about the same time and the inquisitive reader will find some very singular instances of these matters in the course of the following Observations ——The twelfth article does not require any account here

Of the Dipping Needles

THIS Instrument was made by Mr Nairne, agreeable to a plan of the Rev Mr Mitchell, Fellow of the Royal Society, wherein the Needle may be balanced at any time, pretty exactly but not without much time and trouble This is done by means of four little balls, moving on two small wires, one of which is supposed to lie in a plane, passing through the axis of the Needle and its two poles, and the other in a plane at right angles thereto By moving the balls of the latter, the common center of gravity of the balls and Needle, is brought into the plane which passes

through the poles and axis of the Needle; and then, by moving the two former, into the axis itself

The principal defects in this construction are, the difficulty in placing the wire, which carries the two last mentioned balls, in the proper plane; and the total impossibility of knowing, certainly, when it is so Moreover, it is very possible, and undoubtedly often happens, that the axis of the Needle, and its two poles, do not lie in the same plane, in which case, another difficulty will arise in adjusting the Needle to great accuracy It would certainly, I think, contribute towards removing these objections if the breadth of the Needle was placed in the direction of its axis of rotation, both in this instrument, and also in the Azimuth Compass but I speak this with submission to the opinions of better judges

Of the Barometers and Thermometers

THE two portable Barometers differed in no respect from common ones of that kind but the construction of the Marine Barometer is curious, and deserves to be described It was of that sort which we generally call Cistern Barometers The cistern was a cylindric box of wood, with two circular holes in its top, one of near half an inch, and the other of near an inch diameter Into the former of these, the tube is fitted so tight as not to admit the mercury beside it The larger perforation is covered with a very fine piece of woollen cloth, which Mr Nairne found had the property of admitting air through its pores, but not mercury The tube was straight, and its bore rather small for something more than two feet; but above that, it was enlarged to the common size The smallness of the tube, below, prevented the mercury from ascending so fast as it would otherwise

otherwife have done by the motion of the fhip, and the width of the tube, above, prevented what did rife from having fo fenfible an effect as it would otherwife have had, on the motion of the mercury in that part of the tube. This Barometer was fufpended on a common gimmal, about half-way up. I foon found that the motion of the fhip had a very confiderable effect on this inftrument; and it feemed to me, that the motion of a Barometer, thus fufpended, had a tendency to make the mercury ftand fomewhat higher than it would otherwife have done; and therefore the mean of the vibrations of the mercury, as put down in the following pages, will generally be greater than would be fhewn by a barometer at reft. Mr. Nairne tells me, that he has fince found by experiment, that a Barometer of this fort may be fufpended, at fuch a height above the bafon, that its motion will have a tendency to make its mean height lefs than it would be in a Barometer at reft; and from thence has been enabled to determine the point where it may be fufpended, fo that the mercury will neither have a tendency to afcend or defcend; and of courfe in a barometer, thus fufpended, the mercury will be perfectly at reft.

The Thermometers had nothing particular in them, farther than what is remarked at the end of the Meteorological Obfervations; but it would not be amifs if Thermometers, which are intended for expeditions of this fort, had a more extenfive fcale. The fcale of thofe which I had extended from about 0 to 120.—The Theodolite, and Gunter's Chain, are too well known to need defcribing here.

The Wind gage has already been very fully defcribed by its inventor, Dr. Lind, in the Philofophical Tranfactions, vol. lxv. p. 353.

for

for the year 1775 Such an inſtrument would undoubtedly be very uſeful, if it could be made with a ſcale ſomewhat more extenſive than that I made uſe of In it, the water never roſe more than nine tenths of an inch in the ſtrongeſt guſts, and would then vibrate from that point to nothing

The apparatus for trying the heat of the ſea water at different depths, conſiſted of a ſquare wooden tube, of about 18 inches long, and three inches ſquare externally It was fitted with a valve at the bottom, which opened inward, and another at its top, that opened outward, and had a contrivance for ſuſpending the Thermometer exactly in the middle of it When it was uſed, it was faſtened to the deep-ſea line, juſt above the lead, ſo that all the way as it deſcended the water had a free paſſage through it, by means of the valves, which were then both open, but the inſtant it began to be drawn up, both the valves cloſed by the preſſure of the water, and of courſe the Thermometer was brought up in a body of water, of the ſame temperature with that it was let down to

I come now to ſpeak of the Time-keepers, three of which were made by Mr John Arnold, and the fourth by Mr Larcum Kendall, on the principles of that late moſt excellent artiſt, Mr John Harriſon I have nothing to ſay concerning the principles on which they were conſtructed theſe of the latter are now well known, and I am not acquainted with thoſe of the former The merits of each will be beſt ſeen from the obſervations themſelves, and I have therefore no need to add any thing on that head I wiſhed to have given a ſhort hiſtory of what had been done, this way, towards finding the longitude at ſea, but, on examination, can find no certain accounts of what was done by the reſpective perſons who have

turned their thoughts to this fubject; and a bare recital of their names would be neither ufeful nor entertaining. I have therefore only to add, and I am certain it will be confirmed by every fea-faring Perfon who has experienced it, that a good machine of this kind is an ineftimable companion at fea.

All the obfervations which were made on fhore are put down literally as they were taken, that is, in the very numbers that were read off, and the times fhewn by the clock: and, to avoid any errors that might happen in tranfcribing, the proof-fheets were all read by the original books. In delivering the obfervations which were made at fea, it was judged fufficient to give the means only, as the whole, in their original form, would have been too voluminous, and could anfwer no ufeful purpofe, which will not now be equally fulfilled. Every mean was taken by two perfons, feparately, and carefully compared, and corrected, where neceffary, by myfelf; fo that, I hope, very few errors have crept in here. I have annexed the name of the obferver to all thofe obfervations which were not made by myfelf, and taken care to fpecify fuch remarks as were made by him at the time of making them. The deductions from Mr. Bayly's obfervations were in general made by himfelf; and it is particularly mentioned where they are done by me, that he may not be blamed for errors which are not his own.

There are two or three characters made ufe of in this work, which it will be proper to explain, although they are now generally known to Aftronomers.

: Signifies that the number, after which it ftands, is, on fome account or other, a little doubtful.

:: Placed

Placed in like manner, means very doubtful

After some few of Mr Bayly's observations, taken on shore, the characters + or — occur the former means that one fourth of a second must be added to, and the latter, that one fourth of a second must be subtracted from, the number against which it stands

Every sheet has been read over until no errors could be found in it, before it went to the press, and therefore, I hope, few can have escaped me some, no doubt, there will be; but for which, every person, who knows the difficulty of compiling and correcting a work of this nature, and of such an extent, will, I am persuaded, make candid allowance, if his good-nature be not too far trespassed on

I cannot conclude, without observing that I have once, in the course of this work stepped out of my province, and taken a liberty which I would wish not to be censured for I had been at some pains to determine the situations of a group of small islands, to which I cannot find that any name has been assigned by Capt Cook I have therefore ventured to call them by the name of a person to whom I owe very much indeed, one who took me by the hand when I was friendless, and never forsook me when I had occasion for his help, and who, I hope, will not be offended at this public acknowledgment of his favours

W Wales

ASTRONOMICAL OBSERVATIONS,

MADE AT

Different Places on Shore

Obſervations on Drake's Iſland, in Plymouth Sound, by Mr Bayley

1772	Times by the Clock of equal Altitudes: Lower Wire	Middle Wire	Upper Wire	Zenith Diſtance	Time of apparent Noon by the Clock	Phenomena and Remarks
	″	H ′ ″	′ ″	° ′ ″	H ′ ″	
♂ June 30	Set up the Clock marked C, and ſet it agoing; the pendulum being exactly of the ſame length as when going at Greenwich, when it loſt at the rate of 0 373 a day on Syderial time					
	38 18½	2 41 15	44 12	53 40 0		☉'s U L — Eaſterly
	41 40	2 44 37½	47 36			☉'s L L
	59 29	3 2 29	5 31½	50 20 0		☉'s U L
	2 54½	3 5 54½	8 56			☉'s L L
☿ July 1	At	7 20 29	M Arnold watch No 2 ſhewed 0 h 55′		6 45 02,4	Clock 1 17′ 4 bef Sydereal time
	27 6	10 24 4	21 7½	50 20 0		☉'s L L — Weſterly
	30 31	10 27 31	24 29			☉'s U L
	48 18	10 45 20	——	53 40 0		☉'s L L
	51 42	10 48 33½	45 45			☉'s U L
	41 25	1 46 22	——	63 20 0		☉'s U L — Eaſterly Very cloudy
	44 45½	——	——			☉'s L L
	——	2 17 2	——	58 9 0		☉'s U L.
	17 26	2 ——	——			☉'s L L.
♃ —— 2	At	7 4 57	No. 2 ſhewed 0 h 36 0″		6 48 47,5	
	20 3	11 ——	——	58 9 0		☉'s L L — Weſterly
	——	11 20 25½	——			☉'s U L
	52 39	——	——	63 20 0		☉'s L L
	56 0½	11 52 4	——			☉'s U L.
	41 21	1 44 18	47 16	64 0 0		☉'s U L — Eaſterly
	44 43	——	50 40			☉'s L L
♀ —— 3	At	7 17 28	No 2 ſhewed 0 h 45 0″		6 52 34,5	Clock 33″ 8 before Sydereal time.
	0 16	—— ——	54 22	64 0 0		☉'s L L. — Weſterly
	3 37½	12 0 39½	57 42			☉'s U L
♄ —— 4	At	9 4 16	No. 2 ſhewed 2 h 28 0″			
	28 9	1 31 8	——	67 24 0		☉'s U L — Eaſterly
	31 32	1 34 31	37 31½			☉'s L L
☉ —— 5	At	7 33 31	No. 2 ſhewed 0 h 54 0″		7 00 08,6	Clock 6″ 1 after Sydereal time
	28 32	12 25 34	22 35	67 24 0		☉'s L L — Weſterly
	31 55	12 28 56½	——			☉'s U L
	26 25	1 29 24½	32 24½	68 20 0		☉'s U L. — Eaſterly
	29 47	1 32 49½	35 47½			☉'s L L
	55 13	1 58 13	——	63 48 0		☉'s U L
	58 34½	——	——			☉'s L L
	7 42	2 10 40	13 35½	61 50 0		☉'s U L
	11 2	2 13 59½	——			☉'s L L.
☽ —— 6	At	7 17 58	No 2 ſhewed 0 h 35 0″		7 3 54,3	Clock 27 after Sydereal time.

Obſervations by Mr. Bayley, at Drake's Iſland, Continued.

1772.	Times by the Clock of equal Altitudes. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Diſtance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	″ ′	H ′ ″	′ ″	° ′ ″	H ′ ″	
☽ July 6.	56 36½	11 53 38	——	61 50 0		☉'s L. L. Weſterly.
	59 53	11 57 0	54 2½			☉'s U. L.
	9 1½	12 ——	——	63 48 0		☉'s L. L.
	12 20½	12 9 24½	——			☉'s U. L.
	37 46	12 34 46½	31 47	68 20 0		☉'s L. L.
	——	12 38 10	35 9½			☉'s U. L.
☿ —— 8.	At	8 12 9	No. 2 ſhewed	1 h 22″ 0′		
	41 35	2 44 31	47 28	58 30 0		☉'s U. L. Eaſterly.
	44 55	2 47 53	50 51			☉'s L. L.
	——	3 5 59	8 57½	55 6 0		☉'s U. L.
	6 24	3 9 21½	——			☉'s L. L.
♃ —— 9.					7 15 15,9	Clock 1′ 23″ after Syderial time.
	23 58	11 20 58	——	55 6 0		☉'s U. L. Weſterly.
	——	11 24 22½	21 24½			☉'s L. L.
	45 22	11 42 24½	39 29	58 30 0		☉'s U L.
	48 43½	11 45 46½	42 51			☉'s L. L.

Obſervations for the Latitude of the Place, by Mr. Bayley.

1772.	Zenith Diſtance.	Latitude.	Baro-meter.	Ther.	Phenomena.
	° ′ ″	° ′ ″			
☿ July 1.	27 31 36	50 21 20	30,27	77	☉'s L. L. On the Meridian.
♃ —— 2.	27 36 16½	50 21 30½	30,20	76	Ditto.
♀ —— 3.	27 41 16½	50 21 31	30,23	63	Ditto.
♂ —— 7.	42 3 33	50 21 29	30,11	60	α Aquilæ.
	37 36 10	50 21 26½	30,11	60	α Ophiuchi.
♃ —— 9.	28 19 8	50 21 35	30,00	76	☉'s L. L.

The mean is 50° 21′ 28″½ N. Latitude.

The Clock's Rate of going.

1772.	Clock C. before Syderial Time	Clock gains on Syd. time.
	′ ″	″
☿ July 1.	1 17,4	
♃ —— 2.	0 54,5	22,9
♀ —— 3.	0 33,8	20,7
	After	19,95
☉ —— 5.	0 6,1	
☽ —— 6.	0 27,0	20,9
♃ —— 9.	1 23,0	18,67

Mean Rate of loſing 20,625″

Obſervations at Drake's Iſland, Continued

Obſervations of the Sun, Moon, and Stars, made with the Tranſit Inſtrument placed nearly in the Meridian

1772	Firſt Wire ′ ″	Second Wire ′ ″	Middle Wire H ′ ″	Fourth Wire ′ ″	Fifth Wire ′ ″	Phenomena and Remarks
♂ July 7						
	52 54¼	53 36½	12 54 18½	54 54	55 44½	☽'s Firſt Limb
	22 17	22 59½	17 23 43	24 25	25 8	α Ophiuchi
	11 58	12 38½	19 13 21	14 3	14 44	δ Aquilæ
	37 34	38 15½	19 38 58¼	39 41	40 22¼	α Aquilæ

It appears from the obſervations of α Ophiuchi and α Aquilæ, that the inſtrument was weſt of the true meridian 3′ 37″; that is, it cut the Meridian in the Zenith under that angle; moved it a little to the eaſtward

☿ —— 8	49 8	49 51	13 50 35¼	51 19¼	52 1½	☽'s Firſt Limb
	2 41½	3 20	14 4 9½	4 54½	5 37½	Arcturus
	30 32½	31 14	15 31 55¾	32 38½	33 19	α Serpentis
	——	13 34	16 14 21½	15 8½	——	Antares
	——	——	17 23 12	——	——	α Ophiuchi
♃ —— 9						
	12 33¾	13 18½	7 14 3½	——	——	☉'s Firſt Limb
	14 49½	15 35¼	16 21	17 6	17 51	☉'s Second Limb

By comparing theſe obſervations of the Sun's Tranſit with the equal altitudes, it appears that the vertical, in which the inſtrument moved, after it had been altered on the 7th, made an angle with the true Meridian of 1′ 46″; the ſouthern ſemicircle of that vertical lying ſo much to the eaſtward. The two tranſits of α Ophiuchi, when compared together, make the arch of the Horizon intercepted between the two verticals in which it moved, before and after the alteration, 4′ 49″; and of courſe the angle, under which it cut the Meridian after the alteration was 1′ 12″; but the tranſits of the three ſtars Arcturus, α Serpentis, and Antares, when compared with their apparent right aſcenſions, make the angle only 23″; the mean of the three is 1/ of a degree. It happened, very unfortunately, that no Obſervations, correſponding to theſe were made at Greenwich, nor by the late Dr Bradley in 1754, or 223 complete lunations before, namely, on June 27th and 28th; but I have endeavoured to correct the Tables from two Obſervations, made by that excellent Aſtronomer June 24th and 29th, and by comparing the right aſcenſions of the Moon, deduced from the preceding Obſervations, with the Tables ſo corrected I make the Longitude of Drake's Iſland 4° 18′ 52″ W of Greenwich. The Rev Mr Maſkelyne, Aſtronomer Royal, by means of Martin's Map of Cornwall, and the ſituation of the Lizard Point, as given by Mr J Bradley's Obſervations, (See Preface to Nautical Almanack for 1771) makes the Longitude of Drake's Iſland 4° 13′ 23″ W. If I take 4° 16¼′ W the mean of theſe two determinations, it may perhaps be nearer than either, as both are in ſome meaſure uncertain

Obſervations at Drake's Iſland, Continued

The Clock, by which the times were taken, was fixed up very firmly to an oak plank, 11 inches broad, and 2½ thick, let three feet into the ground, and well braced on each ſide It was marked C, which is neceſſary to be noted as ſome of the following Obſervations were taken by another which is marked B The pendulum, all the time, vibrated 1° 50 each way from the perpendicular

All the computations were made by Mr Bayley, except the times of apparent noon and rate of the Clock's going, which were recomputed by myſelf

On Friday, July the 10th, in the evening, the three Time keepers, N° 1, 2, 3, made by Mr Arnold, were ſet agoing by himſelf nearly to mean time and I ſet that made by Mr Kendall, on Mr Harriſon's principles agoing alſo At 13 h 0 6′ by the Clock, the watches N° 1 and 2 ſhewed each of them 5 h 45; from whence Mr Bayley computed that they were 12 too ſlow for mean time at this place At 14 h 15 by the Clock, Mr Kendall's watch ſhewed 6 h 59 52″; and at 14 h 28′ Mr Arnold's watch, N° 3, ſhewed 7 h 12 39″; from whence I computed, that the former was too faſt for mean time by 7 10ths of a ſecond, and the latter too ſlow by 10½″ at the times of compariſon N° 1 and 2 were taken on board the Adventure by Mr Bayley; and N 3, together with that made by Mr Kendall, were carried by myſelf on board of the Reſolution The Rev Mr Maſkelyne, Aſtronomer Royal, had previouſly found the rates of going of N° 1, 2, and 3, to be reſpectively gaining 4 5ths of a ſecond; gaining 14″,15, and loſing 14″,63; and that the rate of Mr Kendall's was 5 8ths of a ſecond a day loſing, all on mean time Mr Bayley computed, from the preceding compariſons, that N° 2 got, while here only, 6,057 a day

Obſervations for the Variation of the Compaſs

1772	Time by the Clock H ′ ″	The Sun's Zenith Diſtance ° ′ ″	Magnetic azimuth °	Variation Weſt ° ′
	Obſerved with a Compaſs made by Gregory			
♃ July 9	13 45 30	77 9 36	N 49 27 W	20 87
	46 38	77 29 0	48 20	21 22
	51 12	78 0 38	47 35	21 29
	Obſerved with a Compaſs made by Adams			
	13 54 48	78 35 0	N 46 00 W	22 $21\frac{1}{2}$
	56 49	78 50 0	45 45	22 18
	59 6	79 10 0	45 15	22 23

The mean of all is 21° $45\frac{1}{2}$

By placing the Compaſs in the meridian, and turning the index to the meridian mark, the variation was found to be 21 $13\frac{1}{6}$

The mean of both is 21 $29\frac{1}{10}$

Obſervations for the dip of the Needle's N° End

1772	Dip of the Needle's N° End, Face of the Inſtrument Eaſt ° ′	Weſt ° ′
♀ July 10	72 45	71 15
	72 50	71 30
	72 55	71 20
Means	72 50	71 $21\frac{1}{3}$

Mean of the two 72 $5\frac{1}{6}$

Obſervations made at the Britiſh Conſul's Houſe, at Fonchial, on the Iſland of Madeira

1772	Equal Altitudes Time by the Clock marked B Lower Wire	Middle Wire	Upper Wire	Zenith Diſtance	Time of apparent Noon by the Clock	Phenomena and Remarks
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″	
♃ July 30	19 17	4 21 22	———	59 40 0		☉ s U L Eaſterly
	21 50	23 58¼	26 4			☉'s L L
	32 24	4 34 29½	36 35	56 40 0		☉ s U L
	34 57	4 37 5½	39 11		8 42 33,28	☉ s L L
♀ —— 31	49 58½	12 47 52½	45 46¼	56 40 0		☉'s L L Weſterly
	52 28	12 50 24½	48 19¼			☉'s U L
	21 53	4 24 0	26 5	59 40 0		☉ s U L Eaſterly
	24 29¾	26 36	28 41½			☉ s L L
	33 1	4 35 7¼	37 14	57 20 0		☉ s U L
	35 37	37 44	39 51		8 45 49,88	☉'s L L
♄ Aug 1	55 50	12 53 46	51 43	57 20 0		☉'s L L Weſterly
	58 22	56 19	54 13½			☉'s U L
	6 59½	13 4 55	———	59 40 0		☉'s L L
	9 31	7 26	5 22			☉ s U L

Hence it appears that the Clock loſt 36″,6 a day on Syderial time

1772	Obſerved by Mr Bayley Time by the Clock marked C.			Zenith Diſtance	Time of paſſing the Meridian	Phenomena and Remarks
♀ July 31	At 13 h 31 39¼″ by B, it was 13 h 31 0″ by C					
	At 22 h 24′ 0′, the Clock B ſhewed 22 h 24′ 54″					
	31 48½	16 34 8½	36 29		19 36 32,8	α Aquilæ, Eaſtward
	41 18¾	22 38 56½	36 35			α Aquilæ, Weſtward
	29 31	3 31 47½	34 4¼	70 21 0		☉ s U L
	32 5½	3 34 21½	36 36¼		-	☉'s L L
	43 2	3 45 17¾	47 34	67 33 0		☉'s U L
		47 52	50 4½			☉ s L L
	2 52	4 5 7¾	7 23¼	63 25 0		☉'s U L.
	5 25¾	7 40½	9 53½			☉'s L L.

At 4 h. 58 55½″ by C, it was 5 h. by B

Obſervations at Fonchial, Continued

1772	Equal Altitudes Time by the Clock C: Lower Wire	Middle Wire	Upper Wire	Zenith Diſtance	Time of apparent Noon by the Clock	Phenomena and Remarks
	H	H ′	H	H ″	H ′ ″	
♄ Auguſt 1	At 8 h 44′ 49¼″ B ſhewed 8 h 46′ 0″				8 44 40,2	
	23 42	13 21 27	19 13½	63 25 0		☉'s L L
	26 15	24 0	21 46			☉'s U L
	——	13 41 17	39 1¾	67 33 0		☉'s L L
	46 1	43 46	41 35½			☉'s U L
	——	13 54 43	52 27½	70 21 0		☉'s L L
	——	57 17	——			☉'s U L

Hence the Clock C ſeems to have loſt at the rate of 1′ 15″ a day on Syderial time

Whilſt we were here, the Thermometer ſtood from 74° to 72½°

All the computations were made by myſelf

The Obſervations were made at the houſe of the Britiſh Conſul, which is about 200 yards, nearly due eaſt, from the place where the late Dr Thomas Heberden made his Obſervations

The Clocks ſtood on a brick floor, and were ſcrewed faſt to a large book caſe, full of books, and which was faſtened in a very firm manner to the wall of the houſe

The pendulum of B vibrated 1° 40′ on each ſide of the perpendicular, and that of C 1° 53′

Compariſons of Mr Kendall's Watch with the Clock B

1772	Time by B	Time by K
	H ″	H ′ ″
♀ July 31	9 35 38	1 50 0
	13 39 0	5 52 47
	4 44 18¼	20 56 0
	8 28 50	12 40 0
♄ Auguſt 1	14 4 37	6 15 0

Compariſons of Mr Arnold's Watch (No 3) with the Clock B

1772	Time by B	Time by A
	H ′ ″	H ′
♀ July 31	9 36 37½	1 35 0
	13 40 21	5 38 0
	4 42 0	20 37 0
	8 26 39½	0 21 0
♄ Auguſt 1	14 6 42	6 0 0

Compariſons of Mr Arnold's Watch (No 1) with the Clock C

1772	Time by C	Time by A
	H	H ″
♀ July 31	9 33 13½	1 47 0
	13 35 40	5 49 0
	8 33 46	0 45 0

Compariſons of Mr Arnold's Watch (No 2) with the Clock C

1772	Time by C	Time by A
	H ′ ″	H ′ ″
♀ July 31	9 34 0¼	2 42 0
	13 37 29	6 45 0
	8 35 39½	1 41 0

Obſervations at Funchal, Continued

If r be put for the Clock's gain on the Watch in any given time (a) ſhewn by the Clock, as for example, between any two times of compariſon, v for the time ſhewn by the Clock, between the compariſon and neareſt apparent noon, and A for the time by the Watch when the compariſon was made, then I ſay that the time ſhewn by the Watch at the apparent noon, or time of the ſun's centre being on the meridian, will be expreſſed by $A \pm v \mp \frac{vr}{a}$, the upper ſigns having place when the compariſon is made before, and the lower ones when it is made after noon; but if the Watch goes faſter than the Clock, it will be juſt the contrary, and by making uſe of this formula, and computing from the above Obſervations, and compariſons of the Time-keepers therewith, I find that the ſeveral rates of the three, made by Mr Arnold, and marked No 1, 2 and 3 were, gaining 2″,31, gaining 55″,89, and loſing 56″,9 on mean time in 24 h; and that the Watch made by Mr Kendall, on Mr Harriſon's principles, was loſing 1″,77 on mean time in the ſame ſpace

Obſervations at the Cape of Good Hope

1772	Equal Altitudes Time by Clock marked B: Lower Wire	Middle Wire	Upper Wire	Zenith Diſtance	Time of apparent Noon by the Clock	Phenomena and Remarks
		h ′	′	°	h ″	
☉ Nov 1	45 58	10 48 14	——	53 9 0		☉'s U L Eaſterly
	48 36	50 54′	53 10			☉'s L L
☽ —— 2					14 31 36,7	W B
	14 51	18 12 33½	10 19′	53 9 0		☉'s L L Weſterly
	17 29½	18 15 14	——			☉'s U L
♂ —— 3						
	0 26¼	10 2 33¼	4 49	63 24 0		☉'s U L Eaſterly
	2 55′	5 12¼	7 26¼			☉'s L L
	16 44	19 0	21 16	60 0 0		☉'s U L
	——	21 30′	23 54			☉'s L L
☿ —— 4					14 37 2,4	W B
	——	18 52 42	50 27	60 0 0		☉'s L L Weſterly Exceed-
	57 36	18 55 21	53 4¼			☉'s U L
	11 27	19 9 9′	6 54¼	63 24 0		☉'s L L ing ſtrong
	——	19 11 47′	9 32¼			☉'s U L wind
	20 15	10 22 33¼	——	59 40 0		☉'s U L Eaſterly
	22 55	25 10	27 24¼			☉'s L L
♃ —— 5					14 39 42,8	
	56 48	18 54 30	52 14	59 40 0		☉'s L L Weſterly
	59 25	——	54 52			☉'s U L
♀ —— 6						

Observations at the Cape of Good Hope, Continued

1772	Equal Altitudes Time by the Clock marked B: Lower Wire	Middle Wire	Upper Wire	Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks		
		H ′ ″	′ ″	° ′ ″	H ′ ″			
♀ Nov 6	5 1	10 7 19	9 $35\frac{1}{2}$	63 40 0		☉ s U L	Easterly	
	7 41	9 $57\frac{1}{2}$	12 $13\frac{1}{4}$			☉ s L L		
	16 20	10 18 35	20 53	61 20 0		☉ s U L		
	18 58	21 $13\frac{1}{2}$	23 30			☉'s L L		
♄ — 7					14 45 13,76			
	11 45	19 9 $28\frac{1}{2}$	7 $12\frac{1}{2}$	61 20 0		☉'s L L	Westerly	
	14 24^{1}	12 8	9 $50\frac{1}{2}$			☉ s U L		
	23 3	19 20 46	18 $29\frac{3}{4}$	63 40 0		☉ s L L		
	25 41^{1}	23 25	21 $9\frac{3}{4}$			☉ s U L		
	6 12	10 8 $28\frac{1}{2}$	10 $44\frac{1}{2}$	63 51 0		☉ s U L	Easterly	W B
	8 50	10 11 6	13 $22\frac{1}{2}$			☉ s L L		
	23 37^{1}	10 25 $53\frac{1}{2}$	28 $9\frac{1}{2}$	60 15 0		☉'s U L		
	26 15	10 28 $32\frac{1}{2}$	——			☉'s L L		
☉ — 8					14 48 0,71			
	10 2	19 7 45	——	60 15 0		☉'s L L	Westerly	
	12 38^{1}	10 $23\frac{1}{4}$	8 $7\frac{1}{2}$			☉'s U L		
	27 27^{1}	19 25 11	22 55	63 51 0		☉'s L L		
	30 $6\frac{1}{4}$	27 $49\frac{1}{2}$	25 $32\frac{1}{4}$			☉ s U L		
	41 14^{1}	11 43 32	45 $51\frac{1}{2}$	44 40 0		☉ s U L	Easterly	
	43 54^{1}	46 14	48 $31\frac{1}{2}$			☉'s L L		
	52 45^{1}	11 55 $2\frac{3}{4}$	57 23	42 20 0		☉ s U L		
	55 28^{1}	57 $47\frac{3}{4}$	0 5			☉'s L L		
☽ — 9					14 50 46,45			
	46 $16\frac{1}{4}$	17 43 58	41 39	42 20 0		☉'s L L	Westerly	
	48 59^{1}	46 41	44 21			☉ s U L		
	57 $47\frac{1}{4}$	17 55 $29\frac{1}{2}$	53 12	44 40 0		☉'s L L		
	0 28	58 11	55 $52\frac{1}{2}$			☉'s U L		
	23 $25\frac{1}{4}$	10 25 $40\frac{1}{2}$	27 $59\frac{1}{2}$	61 10 0		☉ s U L	Easterly	W B
	26 3^{1}	28 $20\frac{1}{4}$	30 37			☉'s L L		
♂ — 10					14 53 36,82			
	21 24	19 19 $7\frac{1}{2}$	16 $51\frac{1}{4}$	61 10 0		☉'s L L	Westerly	
	24 $2\frac{3}{4}$	21 47	19 $30\frac{1}{4}$			☉'s U L		
☿ — 11								
	58 $23\frac{1}{2}$	10 0 $41\frac{1}{4}$	2 57	67 12 0		☉'s U L	Easterly	W B
	1 3	19 3 $20\frac{1}{2}$	5 $36\frac{1}{2}$			☉'s L L		
	9 $5\frac{3}{4}$	10 11 $22\frac{1}{2}$	13 38	65 0 0		☉'s U L		
	——	10 14 $2\frac{1}{4}$	——			☉'s L L		
♄ — 12					14 59 11,36			
	——	19 44 $35\frac{3}{4}$	——	65 0 0		☉'s L L	Westerly	W B
	49 33	47 $16\frac{1}{2}$	44 $58\frac{3}{4}$			☉'s U L.		
	57 $35\frac{1}{2}$	19 55 $18\frac{1}{2}$	53 $1\frac{3}{4}$	67 12 0		☉ s L L		
	0 16	57 $59\frac{1}{4}$	55 $41\frac{1}{4}$			☉'s U L		

Observations at the Cape of Good Hope, Continued

1772	Equal Altitudes Time by Clock B: Lower Wire	Middle Wire	Upper Wire	Zenith Distance	Time of apparent Noon by the Clock	Phenomena and Remarks	
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″		
♃ Nov 12	———	12 39 58½	———	35 0 0		☉ s L L	Easterly
	40 22	———	———			☉ s L L	
♀ — 13					15 2 2,5		
	23 52	17	———	35 0 0		☉ s L L	Westerly
	———	17 24 16	———			☉ s U L	
	3 15	10 5 32½	7 50¼	67 6 0		☉ s U L	Easterly
	5 55½	8 14¼	10 29½			☉ s L L	
	18 23¾	10 20 39	22 56	64 0 0		☉ s U L	
	21 2½	23 19¾	25 35¼			☉ s L L	W B
♄ — 14					15 4 52,7		
	49 57	19 46 40¾	44 24	64 0 0		☉ s L L	Westerly
	51 37	49 20½	47 3¾			☉ s U L	
	4 5	20 1 48	59 31¼	67 6 0		☉ s L L	
	6 45½	4 28¾	2 11¾			☉ s U L	

Observed times when the Sun's and Moon's Limbs, and fixed Stars transited the Meridian, together with the Comparisons of the Clocks with each other

1772	Time by the Clock marked C: First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire		
	′ ″		H ′ ″				
♂ Nov 3	At 10h 9 22 by B, it was 10h 9 0 by C						
☿ — 4	———	———	14 35 49	36 34	37 16½	☉'s First Limb	
	36 38½	37 20½	38 5¼	38 49½	39 31	☉'s Second Limb	
	At 14h 41 0″ by B, it was 14h 40 35½ by C						W B
	At 19h 1 26′ by B, it was 19h 1 0 by C						
	38 21¼	39 3½	22 39 45¾	40 29¾	41 11	☽'s First Limb	
	———	48 59	22 49 42¼	50 25½	———	α Pegasi	
	At 10h 41 32¾′ by B, it was 10h 41 0″ by C						
♃ — 5	At 14h 50 35¼″ by B, it was 14h 50′ 0″ by C						
	23 31½	24 13	23 24 56¾	25 39	26 20½	☽'s First Limb	
	———	55 30	23 56 13¾	56 57½	———	γ Pegasi	W B
	———	2 39	0 3 27½	4 16½	———	ρ Andromeda	
	———	20 38	0 21 27	22 15½	———	δ Andromeda	
	At 11h 0′ 0″ by B, it was 10h 59 11½ by C						
♀ — 6	———	40 5½	14 40 49¾	41 33½	42 16¾	☉'s first L cloudy	W B
	41 37½	42 21	———	———	———	☉'s 2d L	
	At 14h 52 0 by B, it was 14h 51 9½ by C.						

Observations at the Cape of Good Hope, Continued

1772	Transits of the Sun, Moon and Stars over the Meridian. Time by the Clock C. First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	Phenomena and Remarks
			H '	"		
♀ Nov 6	45 50½	46 31⅗	21	47 56⅘	48 36⅘	α Aquarii
	45 17½	45 59⅗	22 46 43	47 26½	——	α Pegasi
	53 19	54 2½	23 54 45½	55 29⅘	——	γ Pegasi
	8 21	9 2¾	0 9 45⅘	10 29	11 10½	☽'s First Limb — W B
	At 0h 14 0 by B, it was 0h 13 3½ by C					
	46 6⅘	46 50¼	1 47 36½	48 22½	——	α Arietis
	At 10h 26 1½' by B, it was 10h 25 0 by C					
♄ —— 7	41 52½	42 36	14 43 19⅘	44 3½	——	☉'s First Limb
	——	44 51	45 35	46 19½	47 1¾	☉'s Second Limb
	At 14h 51 0 by B, it was 14h 49 56" by C					
	At 19h 27 7⅘" by B it was 19h 26 0" by C					
	44 19⅘	45 1¼	21 45 43½	46 26	47 7½	α Aquarii
	47 1½	47 48	23 48 35¼	49 23	50 9⅘	α Andromedæ
	——	52 31	23 53 14	53 53	——	γ Pegasi
	53 23	54 6	0 54 48	55 30⅘	56 13	☽'s First Limb
	At 0h 59 0 by B it was 0h 57 47 by C					
	At 10h 15' 18¾" by B it was 10h 14 0 by C					

This forenoon we examined and adjusted the line of collimation of the instrument, and at noon endeavoured to bring it into the plane of the Meridian, by keeping the Sun's first limb at the middle wire, until the Clock shewed the time at which it ought to pass it according to computation; but the screw which turns the instrument round in azimuth was too fine to keep pace with the Sun's diurnal motion. Mr Bayley then noted its transit at the following wires

☉ Nov 8	——	——	14	46 26	47 8½	☉'s First Limb — W B
	46 30⅘	47 13⅘	14 47 57½	48 42	——	☉'s Last Limb — W B
	At 19h 17 24⅘ by B, it was 19h 16 0" by Clock C					
	At 12h 11 32⅘' by B, it was 12h 10 0' by C					

Moved the Transit Instrument yet nearer to the Meridian and fixed up two Meridian marks, one at about a mile and a half, and the other about half a mile distant

☽ Nov 9	——	47 29¾	14 48 13¼	48 57¼	——	☉'s First Limb
	——	49 45½	50 30	51 14	——	☉'s Second Limb
	At 14h 54 0" by B, it was 14h 52' 27 by C					
	At 18h 1 34½" by B it was 18h 0 0 by C					
	40 28	41 10¾	22 41 54	42 38½	43 20	α Pegasi
	41 15	41 59½	1 42 44½	43 30½	44 14½	α Arietis
	Cloudy	26 51½	2 27 39½	28 23½	29 5⅘	☽'s First Limb
	At 2h 39 0' by B, it was 2h 37 21½ by C					
	At 10h 18 42" by B, it was 10h 17 0 by C					

Observations at the Cape of Good Hope, Continued

1772	Transits of the Sun, Moon, and Stars, over the Meridian. Time by the Clock C					Phenomena and Remarks
	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
	′ ″	′	H			
♂ Nov 10.	49 24	50 7½	14 50 51½	51 36	——	☉'s First Limb
	51 40½	——	53 7½	53 52	54 35	☉'s Second Limb
	42 9½	42 56½	23 43 43½	44 31½	45 17¾	α Andromedæ
	47 4½	47 47½	23 48 30½	49 14½	49 56¼	γ Pegasi
	39 48½	40 33½	1 41 18½	42 4½	42 48½	α Arietis — W B
	35 46½	36 27½	2 37 9¼	——	38 32½	α Ceti
	15 3½	15 47½	3 16 32½	17 17½	18 0½	☽'s First Limb
	17 11½	17 55½	18 40½	19 25¼	20 8¼	☽'s Second Limb
	8 10¼	8 53½	4 9 37½	10 21½	11 4¼	Aldebaran
	At 10 h 41′ 51¼″ by B, it was 10 h 40′ 0 by C					
☿ —— 11	52 1	52 44¼	14 53 28½	——	——	☉'s First Limb
	54 17½	55 1½	55 45½	56 30	57 12½	☉'s Second Limb
	At 15 h 1 0″ by B, it was 14 h 59 6½ by C					
	At 10 h 18 0″ by B, it was 10 h 16′ 0″ by C					
♃ —— 12	54 41	55 24¼	14 56 8¼	56 52½	——	☉'s First Limb. — W B
	——	57 41½	14 58 25½	59 10¼	59 52¼	☉'s Second Limb
	At 15 h 7 2″ by B, it was 15 h 5 0″ by C					
	At 20 h 2 4″ by B, it was 20 h 0 0″ by C					
	36 57½	37 42½	1 38 28	39 14¼	39 57¼	α Arietis
	59 35½	0 20¼	5 1 5½	1 51½	——	☽'s Second Limb — W B
	25 13½	25 54½	5	27 19½	28 0¼	α Orionis
	At 5 h 8 8 by B it was 5 h 6 0 by C					
	At 12 h 56 11½ by B it was 12 h 54 0 by C					
♀ —— 13	57 19	58 2½	14 58 46½	59 40½	——	☉'s First Limb
	——	0 19½	15 1 3¼	1 47¼	2 31	☉'s Second Limb
	At 15 h 7 0″ by B, it was 15 h 4′ 47½ by C					
	23 47	24 28	5 25 10½	25 53¼	26 34	α Orionis
	52 29	53 13½	5 53 57½	54 44½	55 28	☽'s Second Limb
	15 47	16 30¼	6 17 14	Cloudy		Syrius
	At 6 h 24 0 by B, it was 6 h 21 40″ by C					
	At 10 h 27 21⅓″ by B, it was 10 h 25 0 by C					
♄ —— 14	59 59¼	0 42½	15 1 26¾	2 11¼	——	☉'s First Limb — W B
	——	3 0¼	15 3 44¼	4 29½	——	☉'s Second Limb
	At 15 h 7 23½″ by B, it was 15 h 5 0 by C					
	At 20 h 7′ 27 by B, it was 20 h 5 0 by C					
	——	40 23½	6 41 7½	41 51¼	——	Supposed 51st of Geminæ See British Catalogue — W B
	——	46 5½	6 45 45¼	——	——	2da ad λ Gemino

Observations at the Cape of Good Hope, Continued.

1772.	Transits of the Sun, Moon, and Stars, over the Meridian. Time by the Clock C. First Wire. ′ ″	Second Wire. ′ ″	Middle Wire. H ′ ″	Fourth Wire. ′ ″	Fifth Wire. ′ ″	Phenomena and Remarks.
♄ Nov. 14.	———	46 37¾	6 47 33¼	48 9¼	———	☽'s Second Limb.
	———	0 8½	7 0 58½	1 48½	———	Castor. } W. B.
	6 43½	7 25¼	7 8 7½	———	9 30¾	Procyon. } W. B.
	———	11 26½	12 14½	13 2¼	———	Pollux. } W. B.
	At 7 h. 18′ 32½″ by B, it was 7 h. 16′ 0″ by C.					
	At 10 h. 38′ 34″ by B, it was 10 h. 36′ 0″ by C.					
☉ —— 15.	2 38½	3 21¾	15 4 6½	4 50½	———	☉'s First Limb.
	———	5 39½	6 23¾	7 8½	7 51½	☉'s Second Limb.
	At 15 h. 13′ 0″ by B, it was 15 h. 10′ 23½″ by C.					

Observations for the Variation of the Compass.

1772.	Time by the Clock B. H ′ ″	The Sun's magnetic azimuth. ° ′	Variation West. ° ′	Variation West. ° ′	Variation West. ° ′
♀ Nov 13.	20 20 37	N. 79 55 W.	20 1	21 30	20 50
	22 56	80 0	20 13	21 0	20 30
	24 31	80 0	20 25	21 10	21 0
♄ —— 14.	20 30 30	81 10	19 53	21 15	20 40
	32 39	81 15	20 4½	21 0	21 20
	33 20½	81 40	19 45	21 20	21 10
	33 56	81 50	19 19½	21 15	21 20
	34 58	82 5	19 29½	20 30	21 5
	35 11½	82 15	19 24	20 20	20 50
	20 39 29	82 35	19 37½	20 40	20 40
	40 12	83 0	19 17	20 20	21 5
	41 2	81 5	21 18½	20 25	20 50
	42 52	81 20	21 17½	20 10	20 35
	43 44	83 40	19 4½	20 57	20 55
	44 44	83 45	19 6½		
	45 35	83 45	19 13		
	46 22	81 15	21 50		

The variations contained in these two columns, were got by placing the compass in the meridian, and turning the index to the meridian mark.

The mean of all the variations found from the time, is 19° 57′ 35″; the mean of all those taken by the Meridian mark, is 20° 55′ 4″; and the mean of both is 20° 26½ West.

Obſervations at the Cape of Good Hope, Continued

Computations of the Rates at which the two Clocks went

1772	Time of apparent Noon by Clock B H ′ ″	Sydereal Time of apparent Noon H ′ ″	Clock B ſlow of Sydereal Time ′ ″	Clock B loſes on Sydereal Time ′ ″	Clock C loſes on B ″	Clock C loſes on Syd time ′ ″
☽ Nov 2	14 31 36,7	14 32 41,4	1 4,7			
☿ —— 4	14 37 2,4	14 40 36,7	3 34,3	1 14,8		
♃ —— 5	14 39 42,8	14 44 35,6	4 52,8	1 18,5	10,8	
♄ —— 7	14 45 13,8	14 52 35,7	7 21,9	1 14,6	{ 15,2 13,5	
☉ —— 8	14 48 0,7	14 56 37,0	8 36,3	1 14,4	17,4	
☽ —— 9	14 50 46,4	15 0 39,2	9 52,8	1 16,5	11,6	
♂ —— 10	14 53 36,7	15 4 42,1	11 5,4	1 12,6	9,3	
♃ —— 12	14 59 11,4	15 12 50,7	13 39,3	1 16,9	{ 9,3 10,7	
♀ —— 13	15 2 2,1	15 16 56,2	14 54,1	1 14,8	10 7	
♄ —— 14	15 4 52,7	15 21 3,6	16 9,9	1 15,8	10,7	
		Mean Rate of the Clocks		1 15,48	11,92	1 27,35

Computations of the Rate at which Mr Arnold's Watch (N° 1) went, by Mr Bayley

1772	Time by the Watch No. 1 H ′ ″	Time by the Clock C H ′ ″	Clock C before Watch No. 1 H ′ ″	Watch loſes on the Clock between Compariſon ′ ″	Interval of compariſon H ′	Watch loſes on the Clock in twenty four hours ′ ″	Clock loſes on Sydereal time ′ ″	Watch loſes on Sydereal time ′ ″	Watch loſes on mean time ′ ″
☿ Nov 4	22 6 0	14 48 0	16 42 0						
♃ —— 5	22 12 0	14 56 54	16 44 54	2 54	24 6	2 53,3	1 29,0	4 22,3	0 25,8
♀ —— 6	22 23 0	15 10 42	16 47 42	2 48	24 11	2 46,6	1 29,1	4 15,7	0 19,2
♄ —— 7	21 37 0	14 27 27½	16 50 27½	2 45½	23 14	2 50,9	1 29,1	4 20,0	0 23,5
☉ —— 8	21 39 0	14 32 11	16 53 11	2 43½	24 2	2 43,5	1 32,8	4 16,3	0 19,8
☽ —— 9	22 6 0	15 2 4½	16 56 4½	2 53½	24 27	2 50,3	1 25,8	4 16 1	0 19,6
♂ —— 10	22 7 0	15 5 55	16 58 55	2 50½	24 1	2 50,5	1 25,8	4 16 3	0 19,8
☿ —— 11	22 2 0	15 3 45½	17 1 45½	2 50½	23 55	2 51,1	1 26,1	4 17,2	0 20,7
♃ —— 12	22 3 0	15 7 37	17 4 37	2 51½	24 1	2 51,5	1 26,1	4 17,6	0 21,1
♀ —— 13	22 22 0	15 29 29	17 7 29	2 52	24 19	2 49,6	1 25,9	4 15 5	0 19 0
♄ —— 14	22 4 0	15 14 14	17 10 14	2 45	23 42	2 47,2	1 25,9	4 13,1	0 16,6
☉ —— 15	22 4 0	15 27 2½	17 13 2½	2 48½	24 0	2 48,5	1 25,9	4 14,4	0 17,9
				Mean Rate of the Watch (N° 1)					0 20,3

Mr Bayley farther computes, that at the time when this Watch was compared with the Clock, on November 4, it was too ſlow for mean time, at the Cape, by 1 h 49′ 9″ 1

Observations at the Cape of Good Hope, Continued.

Computations of the Rate at which Mr. Arnold's Watch (No. 3.) went.

1772.	Time of apparent Noon by the Clock.	Time by the Clock when the Watch was compared.	Time from Noon by the Clock.	Clock's gain on Watch.	Time from Noon by the Watch.	Time by the Watch when compared.	Time of apparent Noon by the Watch.	Mean Time of apparent Noon.	Watch slow of mean Time.	Watch gains on mean Time.
	H ′ ″	H ′ ″	′ ″	″	′ ″	H ′ ″	H ′ ″	H ′ ″	H ′ ″	′ ″
☽ Nov. 2.	14 31 36,7	14 41 55¼	10 18,55	1 64	10 16,91	19 59 38	19 49 21,09	23 43 47,0	3 54 25,91	
♂ —— 3.	14 34 19,5	15 27 12	52 52,5	8 39	52 44,11	20 41 0	19 48 15,89	23 43 47,8	3 55 31,91	1 6,0
☿ —— 4.	14 37 2,4	14 47 54½	10 51,85	1 73	10 50,12	19 58 0	19 47 9,88	23 43 49,3	3 56 39,42	1 7,51
♃ —— 5.	14 39 42,8	14 58 55½	19 7,45	3 67	19 3,78	20 5 0	19 45 56,22	23 43 51,7	3 57 55,48	1 16,06
♀ —— 6.	14 42 28,3	15 15 18½	32 50,2	5 57	32 44,63	20 17 0	19 44 15,37	23 43 54,9	3 59 39,53	1 44,05
♄ —— 7.	14 45 13,8	14 30 33¾	14 39,5	2 45	14 37,05	19 28 0	19 42 37,05	23 43 58,8	4 1 21,75	1 42,22
☉ —— 8.	14 48 0,7	14 32 57	15 3,7	3 14	15 0,56	19 26 0	19 41 0,56	23 44 3,6	4 3 3,04	1 41,29
☽ —— 9.	14 50 46,4	15 3 23½	12 36,85	1 96	12 34,89	19 52 0	19 39 25,11	23 44 9,3	4 4 44,19	1 41,15
♂ —— 10.	14 53 36,7	15 7 40¼	14 3,8	2 21	14 1,59	19 52 0	19 37 58,41	23 44 15,8	4 6 17,39	1 33,20
☿ —— 11.	14 56 24,0	15 5 52	9 28,0	1 19	9 26,81	19 46 0	19 36 33,19	23 44 23,2	4 7 50,01	1 32,62
♃ —— 12.	14 59 11,4	15 7 6¼	7 54,85	1 0	7 53,85	19 43 0	19 35 6,15	23 44 31,4	4 9 25,25	1 35,24
♀ —— 13.	15 2 2,1	15 31 22	29 19,88	4 96	29 14,92	20 3 0	19 33 45,08	23 44 40,5	4 10 55,42	1 30,17
♄ —— 14.	15 4 52,7	15 17 37¾	12 45,5	2 29	12 43,21	19 45 0	19 32 16,79	23 44 50,4	4 12 33,61	1 38,19
									Mean Rate of the Watch's losing	1 30,642

Computations of the Rate that Mr. Kendall's Watch went at.

1772.	Time of apparent Noon by the Clock.	Time by the Clock when the Watch was compared.	Time from Noon by the Clock.	Clock's gain on Watch.	Time from Noon by the Watch.	Time by the Watch when compared.	Time of apparent Noon by the Watch.	Mean Time of apparent Noon.	Watch slow of mean Time.	Watch gains on mean Time.
	H ′ ″	H ′ ″	′ ″	′ ″	′ ″	H ′ ″	H ″ ″	H ′ ″	H ′ ″	″
☽ Nov. 2.	14 31 36,7	14 41 55¼	10 18,8	0 1,1	10 17,7	22 23 0	22 12 42,3	23 43 47,0	1 31 4,7	
♂ —— 3.	14 34 19,5	15 29 42	55 22,5	0 6,2	55 16,3	23 8 0	22 12 43,7	23 43 47,8	1 31 4,1	+ 0,6
☿ —— 4.	14 37 2,4	14 45 19½	8 17,1	0 0,9	8 16,2	22 21 0	22 12 43,8	23 43 49,3	1 31 5,5	— 1,4
♃ —— 5.	14 39 42,8	14 56 59	17 16,2	0 1,9	17 14,3	22 30 0	22 12 45,7	23 43 51,7	1 31 6,0	— 0,5
♀ —— 6.	14 42 28,3	15 13 40	31 11,7	0 3,5	31 8,2	22 44 0	22 12 51,8	23 43 54,9	1 31 3,1	+ 2,9
♄ —— 7.	14 45 13,8	14 28 14½	16 59,3	0 1,9	16 57,4	21 56 0	22 12 57,4	23 43 58,8	1 31 1,4	+ 1,7
☉ —— 8.	14 48 0,7	14 34 55½	13 5,2	0 1,5	13 3,7	22 0 0	22 13 3,7	23 44 3,6	1 30 59,9	+ 1,5
☽ —— 9.	14 50 46,4	15 3 38½	12 52,1	0 1,4	12 50,7	22 26 0	22 13 9,3	23 44 9,3	1 31 0 0	— 0,1
♂ —— 10.	14 53 36,7	15 6 18¼	12 41,6	0 1,4	12 40,2	22 26 0	22 13 19,8	23 44 15,8	1 30 56,0	+ 4,0
☿ —— 11.	14 56 24,0	15 7 55¾	11 31,8	0 1,3	11 30,5	22 25 0	22 13 29,5	23 44 23,2	1 30 53,7	+ 2,3
♃ —— 12.	14 59 11,4	15 6 34½	7 23,1	0 0,8	7 22,3	22 21 0	22 13 37,7	23 44 31,4	1 30 53,7	+ 0,0
♀ —— 13.	15 2 2,1	15 33 16¾	31 14,1	0 3,5	31 10,6	22 45 0	22 13 49,4	23 44 40,5	1 30 51,1	+ 2,6
♄ —— 14.	15 4 52,7	15 16 54	12 1,3	0 1,3	12 0,0	22 26 0	22 14 0,0	23 44 50,3	1 30 50,3	+ 0,8
									Mean Rate of the Watch's gaining	1,2

Obſervations at the Cape of Good Hope, Continued

Comparifons of the Tranſit Inſtrument with equal Altitudes

1772	Time of the ☉'s Tranſit by the Clock C	Clock B before C	Time of the ☉'s Tranſit by the Clock B	Time of apparent Noon by the equal Altitudes	☉ tranſits after Noon	Horizontal Error of the Inſtrument
	H ′	′ ″	H ′ ″	H ′	″	
☿ Nov 4	14 36 57,30	0 24,46	14 37 21,76	14 37 2,4	19,36	14 51
♄ — 7	14 44 27,31	1 3,96	14 45 31,27	14 45 13,8	17,47	14 01
	Altered the Inſtrument					
☽ — 9	14 49 21,54	1 33,00	14 50 54,54	14 50 46,4	8 14	6 43
♃ — 12	14 57 16,95	2 1,94	14 59 18,89	14 59 11,4	7,49	6 28
♀ — 13	14 59 55,09	2 12,7	15 2 7,79	15 2 2,1	5,69	4 59
♄ — 14	15 2 35,85	2 23,5	15 4 59,35	15 4 52,7	6,65	5 55

Of the Dip of the Magnetic Needle

The dipping Needle which we took on ſhore at this place was ſo much out of balance, and ſo difficult to get in again, that, notwithſtanding we both of us ſpent all the leiſure time we had from other obſervations, we did not get it perfectly adjuſted before we went away; and of courſe were not able to get any obſervations of that kind at this time

Observations made at Dusky Bay, in New Zealand.

1773.	Equal Altitudes. Times by Clock B. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Distance. ° ′ ″	Time of apparent Noon by the Clock. H ′ ″	Phenomena and Remarks.	
☉ April 4.							
	59 58	22	6 31½	65 20 0		☉'s U. L.	Easterly.
	4 3	22	—			☉'s L. L.	
☽ —— 5.					1 4 36,4		
	—	4 1 18	—	65 20 0		☉'s L. L.	Westerly.
	—	—	2 6			☉'s U. L.	
	1 10	22 4 25:	7 38½	66 0 0		☉'s U. L.	Easterly.
	—	8 26	—			☉'s L. L.	
♂ —— 6.					1 8 20,0		
	10 51	4 7 34	—	66 0 0		☉'s L. L.	Westerly.
	14 55	11 39½	8 26			☉'s U. L.	
♄ —— 10.	45 47½	21 48 45½	51 46½	72 20 0		☉'s U. L.	Easterly.
	49 26	52 30	—			☉'s L. L.	
	4 21	22 7 30	—	69 40 0		☉'s U. L.	
	8 14	11 24	—			☉'s L. L.	
	21 25	22 24 45	28 5	67 20 0		☉'s U. L.	
	25 29	28 49	32 7			☉'s L. L.	
☉ —— 11.					1 26 50,9		
	27 38	4 24 13	20 58	67 20 0		☉'s L. L.	Westerly.
	31 41	28 22	25 4			☉'s U. L.	
	44 53	4 41 46	—	69 40 0		☉'s L. L.	
	48 44	45 37½	—			☉'s U. L.	
	3 36	5 0 35	—	72 20 0		☉'s L. L.	
	7 19	4 19	1 21			☉'s U. L.	
☿ —— 1	14 38:	23 18 26	22 15	65 20 0		☉'s U. L.	Easterly.
	19 16	23 9	27 4			☉'s L. L.	
♄ —— 17.					1 49 17,5		
	—	4	10 58	65 20 0		☉'s L. L.	Westerly.
	—	—	16 47			☉'s U. L.	
	35 52½	22 39 12	42 25½	71 0 0		☉'s U. L.	Easterly.
	39 55½	43 11½	46 27			☉'s L. L.	
☉ —— 18.					1 53 4,75		
	5 37¾	5 2 23½	59 9	71 0 0		☉'s L. L.	Westerly.
	9 40	6 24	3 11			☉'s U. L.	
	The Clock stopped a few seconds in winding up.						
	—	23 8 28	—	68 0 0		☉'s U. L.	Easterly.
	9 16½	12 53:	—			☉'s L. L.	
☽ —— 19.					1 56 41,9		
	—	4 39 57:	—	68 0 0		☉'s L. L.	Westerly.
	—	—	40 55:			☉'s U. L.	
	37 43	22 40 57½	44 10½	72 20 0		☉'s U. L.	Easterly.
	41 41	44 55½	48 11			☉'s L. L.	

Obſervations at Duſky Bay, Continued

1773	Equal Altitudes Times by Clock B: Lower Wire ″	Middle Wire H ′	Upper Wire ′	Zenith Diſtance ° ′	Time of apparent Noon by the Clock H ′	Phenomena and Remarks
☽ April 19	11 7½	23 14 41	18 19	68 0 0		☉'s U L } Laſterly
	15 31	19 12	22 50½			☉'s L L
♂ — 20					2 0 29,65	
	44 53	4 41 14	37 36½	68 0 0		☉'s L L } Weſterly
	49 20	45 45	42 9			☉'s U L
	18 44	5 15 29	———	72 20 0		☉'s L L
	22 39	19 28	16 13			☉'s U L
	38 45½	22 41 57	45 8	73 0 0		☉'s U L } Eaſterly
	42 40	45 54	49 9			☉'s L L
	———	23 15 27	19 1½	68 40 0		☉'s U L
	16 16	19 54	23 32			☉'s L L
☿ — 21					2 4 17,8	
	51 44½	4 48 7½	44 29½	68 40 0		☉'s L L } Weſterly
	———	52 35	49 0			☉'s U L
	———	5 22 8½	18 51½	73 0 0		☉'s L L
	29 16	26 4½	22 54			☉'s U L
♄ — 24	26 15½	10 30 28½	34 47½	66 0 0		☉'s U L } Eaſterly
	31 27	35 48¾	40 14½			☉'s L L
☉ — 25					12 44 41,7	By Mr Kendall's Watch
	57 24	14 53 1¾	48 36¾	66 0 0		☉'s L L } Weſterly
	2 36	58 2½	54 4½			☉'s U L

In theſe laſt Obſervations the time was noted by the Watch made by Mr Kendall, the Clock having been taken down on the 22d

1773	Meridian Zenith Diſtances of the Sun and Stars: Interior Arch ° ′ ″	Exterior Arch G S V	″	Barom	Thermom	Phenomena and Remarks
☽ April 5	51 37 10	55 0 8	+ 11	29 96	54	☉'s U L
♂ — 6	51 33 34	54 3 31	+ 24	30 35	51	Procyon
☉ — 11	54 24 28	58 0 4	+ 20	30 13	54	☉'s L L
	51 33 10	54 3 31	+ 21	30 18	50	Procyon
	0 52 54	0 3 24	— 24	30 19	50	γ Navis plane of the Quadrant Weſt
	23 0 0	24 2 5	+ 6	30 18	48½	β Navis above the Pole
♃ — 15	55 50 56	59 2 9	+ 26	29 99	53	☉'s L L
♀ — 16	55 40 20	59 1 17	+ 22	30 4	58	☉'s U L
	51 33 14	54 3 31	+ 18	29 98	49	Procyon
	0 53 4	0 3 26	0	29 97	48½	γ Navis } Plane of the Quadrant Eaſt
	8 5 16	8 2 17	+ 20	29 96	48	δ
	22 59 38	———	———	29 96	47½	β ——— above the Pole
♂ — 18	56 22 14	60 0 17	+ 20	29 95	58½	☉'s U L

Obſervations at Duſky Bay, Continued.

1773.	Meridian Zenith Diſtances of the Sun and Stars.							Barom.		Thermom.	Phenomena and Remarks.
	°	'	"	G	S	V.	"				
☉ April 18.	61	33	28	55	0	0	+ 10	29	90	52	Procyon.
	0	53	26	0	3	24	− 10	29	90	51¼	γ Navis } Plane of the Quadrant Weſt.
	8	5	50	8	2	16	− 9	29	90	50¾	δ ——
	*22	59	38	24	2	4	+ 4	29	90	50¼	β —— above the Pole.
☿ —— 21.	8	5	40	8	2	15	0	29	65	46	δ Navis plane of the Quadrant Weſt.
	22	59	18	24	2	3	+ 20	29	65	45	β —— above the Pole.
♃ —— 22.	58	16	41	62	0	21	+ 19	29	67	53	☉'s L. L.
	0	52	45	0	3	25	0	29	66	45	γ Navis } Plane of the Quadrant Eaſt.
	8	5	21	8	2	17	+ 22	29	66	45	δ ——

* In making the above Obſervations, I eſtimated the ſeconds on both arches by the eye, on account of a defect in the tangent ſcrew of the aſtronomical quadrant, or the apparatus which carries it, I could not diſcover which; the ſcrew being liable, ſometimes, to turn half way round without altering the vernier.

N. B. This is the ſame quadrant which Captain Cook and Mr. Green uſed at Otaheite, and poſſibly got injured when in the hands of the natives; if this was the caſe, it is highly probable that the diſagreement in their meridian zenith diſtances (See p. 406, Philoſophical Tranſactions, vol. LXI.) aroſe from this cauſe.

Lunar Obſervations for the Longitude of the Place.

1773.	Time by the Clock.			Diſtance ☉ and ☽'s Limbs.			Zenith Diſtance ☽'s L. L.			Double Alt. of ☉'s L. L.		Barom.	Thermom.	Longitude Eaſt.		
	H	'	"	°	'	"	°	'	"	°	'			°	'	"
☿ April 14.				+	1	35¼	+		12	Corrections of the Quadrants.						
	0	7	42	78	1	45	54	10	0							
		9	37	78	0	45	54	35	45			29,99	52	166	27	45
		13	10	77	57	30	55	3	0							
		16	7	77	57	0	55	31	45							
		18	31	77	56	0	55	57	0							
		21	2	77	56	0	56	21	0			29,99	52	166	24	45
♄ —— 17.				+	1	39¼		+	12	Corrections of the Quadrants.						
				+	0	30¼		+	12	Ditto						
	21	34	44	43	46	45	46	36	15							
		38	30		45	0		19	45							
		40	12		44	30		9	30			29,94	51¼	166	3	18
		41	44		44	30		3	0							
		44	0		43	0	45	51	0							

Obſervations at Duſky Bay, Continued

Lunar Obſervations

1773	Time by the Clock	Diſtance ☉ and ☽'s Limbs	Zenith Diſtance ☽ s L L	Double Alt of ☉ s L L	Barom	Thermom	Longitude Eaſt
	H ' "	° '	°	"			° "
♄ April 17	21 48 21	43 41 45	45 30 0		29,94	51½	166 24 3
	52 34	41 15	11 45				
	54 38	40 30	2 45				
	56 46	40 0	44 54 15				
		+ 0 36½	+ 12	Corrections of the Quadrants			
	0 32 25	42 53 0	46 36 0	60 47	29 95	58	166 4 10½
	37 24	50 15	47 5 30	61 25			
	39 22	50 0	15 45	61 40			
	41 36	50 0	27 30	61 54			
	44 24	48 45	43 45	62 12			
	55 23	46 0	48 51 0	63 29	29 95	58	166 24 55½
	58 6	45 0	49 7 0	63 47			
	1 0 20	43 45	26 0	64 5			
	3 16	43 0	41 0	64 14			
	5 23	42 30	54 15	64 25			
			+ 12	' " —10 15 Corrections of the Quadrants			
☉ —— 18	19 18 38	60 30 0	74 16 15		29 87	43	165 18 21
	23 58	32 0	73 26 0				
	27 45	33 0	72 50 15				
	31 33	34 0	72 12 0				
	35 25	36 0	71 37 0		29 87	43	165 14 45
	40 4	37 0	70 52 30				
	43 14	37 30	70 23 15				
	46 22	39 0	69 55 0				
	49 24	40 30	69 26 0				
		— 15	+ 12	Corrections of the Quadrants			

The mean of all theſe Obſervations gives the Longitude of the Obſervatory 166° 2 46½" E
If the Obſervations of the ☽'s diſtance from α Aquilæ be rejected, it will be 166° 18 9" Eaſt.

Obfervations at Dufky Bay, Continued.

Obfervations for finding the Variation of the Compafs.

1773.	Zenith Dift. ☉'s U. L.	Azimuth of the ☉'s center.	Double Altit. of the ☉'s L. L.		Variation Eaft.
	° ′	° ′	° ′		° ′
♄ April 17.	Knight's Compafs.	N. 17 35 E.	56 20		
		17 25	56 29¼		
		17 30	56 36		12 38⅛
		17 20	56 45		
		17 0	56 52		
	Correction of the Quad.		+ 0 34		
☽ —— 19.	80 30¼	N. 47 55 E.		By another Knight's Compafs.	
	79 40¼	46 25			
	79 18	45 30			15 6¼
	78 54	45 25			
	78 40¼	47 0			
	70 36¼	N. 34 35 E.		Gregory's Compafs.	
	70 16	35 15			
	69 57¼	33 50			13 25⅔
	69 42¼	34 10			
	69 17¼	32 20			
☿ —— 21.	69 26¼	N. 60 10 W.		Gregory's Compafs.	
	69 46¼	60 45			
	70 0¼	60 30			14 5⅓
	70 14	60 50			
	70 27¼	61 0			
	70 43¼	64 0			
	+ 12″ Correction of the Quad.				

, Between every one of thefe Obfervations, except thofe in the firft fet, I turned the compafs quite round, fometimes one way, and fometimes the other; a precaution which, I am convinced from experience, is neceffary to be taken by thofe who would obtain the true quantity of the variation by an azimuth compafs on fhore.

Obfervations of the Dip of the Magnetic Needle.

	Face of the Inftrument. Eaft.	Weft.	
	° ′	° ′	
♂ April 13.	71 5	70 45	
	70 20	70 20	
	70 35	70 0	
	70 40	70 21⅓	Means.
	Changed the Poles.		
	70 45	71 35	
	70 0	71 0	
	70 15	71 50	
☽ —— 19.	68 10	69 35	
	68 0	69 30	
	69 26	70 42	Means.
	Altered the balancing		
	69 20	69 35	
	69 5	69 0	
	70 10	69 0	
	69 31⅔	69 11⅔	Means.
♂ —— 20.	Changed the Poles.		
	70 10	70 6	
	69 35	69 5	
	69 0	68 55	
	70 10	70 30	
☿ —— 21.	72 5	71 10	
	72 5	71 35	
	70 39⅛	70 13⅓	Means.
	70 4⅓	70 7⅛	Mean of all the means.
	70 5,6	Mean of the two, or Dip of the Needle's S. End.	

The Needle was not readily balanced here; but it was done with much lefs trouble than at the Cape of Good Hope, owing, probably, to the change in the dip being lefs between that place and this than between that and England, or poffibly from its having contracted lefs ruft.

Obſervations at Duſky Bay, Continued

Obſervations on the Tides

1773	Apparent Time	Time by the Clock.	Water below a certain Mark	Remarks
	H ′ ″	H ′	F I	
♂ April 6		23 30	2 4	High Water
☿ — 7		2 44	6 11	
		2 49	7 1	
	4 28 46	5 41^{1}	10 5	Low Water
		8 33	7 1	
		8 40	6 11	
		9 26	5 4	
		9 32	5 2	
		9 40	4 11	
	10 57 1	12 10^{1}	2 10	High Water
		14 41	4 11	
		14 49	5 2	
		14 56	5 4	
		21 58$_{2}$	4 11	
		22 20	4 6	
		22 36	4 0	
		22 45	3 8	
	23 1 35	0 17½	2 8	High Water
♃ — 8		1 54	3 8	
		1 59	4 0	
		2 17	4 6	
		2 28	4 11	
			10 6	Low Water
		10 58	4 4	
		11 11	3 11	
		11 26	3 6	
		11 37	3 3	
	11 27 10	12 45	3 6	High Water
		13 50	3 3	
		14 4	3 6	
		14 21	3 11	
		14 36	4 4	
	17 37 47	18 56$_{4}$	10 5	Low Water,
		23 9	4 6	
		23 16	4 4	
		23 22	4 2	
		23 32	3 11	
	23 53 19	1 12^{3}	2 8	High Water
♀ — 9		2 55	3 11	
		3 5	4 2	
		3 9	4 4	
		3 16	4 6	
			10 6	Low Water Evening
			10 1	Low Water Morning

This forenoon the tube got moved out of its place by some means or other; I replaced it and then made the following Obſervations,

1773	Apparent Time	Time by the Clock.	Water below a certain Mark	Remarks
		23 46	4 8	
		23 57	4 5	
		0 17	3 10	
♄ — 10	0 46 23	2 9¾	2 10	High Water
		4 0	3 10	

1773	Apparent Time	Time by the Clock	Water below a certain Mark	Remarks.
	H	H	F I	
♄ April 10		4 5	4 5	
		4 33	4 8	
			10 0	Low Water Evening
			10 11	Ditto, Morning
☉ — 11			3 2	High Water Aftern
			9 8	Low Water, Morning
		0 37	7 2	
		0 44	7 1	
		1 37	5 9	
		1 45	5 6	
		1 52	5 3	
☽ — 12	2 48 52	4 13^{7}	3 6	High Water
		6 33	5 3	
		6 40	5 6	
		6 50	5 9	
		7 57	7 2	
			9 4	Low Water, Morning
♂ — 13		3 58	4 5	
		4 4	4 3	
		4 16	4 0	
	3 32 2	5 3⅙	3 8	High Water
		5 45	4 0	
		6 2	4 3	
		6 14	4 5	
		21 13	6 7	
		21 29	6 10	
		21 42	7 1	
	12 22 51	0 0$_{8}$	8 10	Low Water
☿ — 14		2 23	7 1	
		2 34	6 10	
		2 48	6 7	
		4 30	4 10	
		4 40	4 7	
		4 52	4 4	
		6 29	3 6	High Water
	4 50 11	8 4	4 4	
		8 19	4 7	
		8 29	4 10	
♃ — 15			3 11	High Water
		0 25	7 3	
		0 31	7 5	
		0 47	7 9	
♀ — 16	0 44 20	2 30^{1}	8 4	Low Water
		4 10	7 9	
		4 28	7 5	
		4 40	7 3	
		6 7	4 1	
		20 25	3 10	
	19 20 55	21 9^{L}	3 7	High Water
		21 51	3 10	
		22 15	4 1	

Observations at Dusky Bay, Continued.

Observations on the Tides.

1773.	Apparent Time. H ′ ″	Time by the Clock. H ′	Water below a certain Mark. F. I.	Remarks.
♀ April 16.		23 45	5 4	
		0 5	5 7	
		0 27	6 0	
		0 54	6 6	
♄ — 17.	1 47 33	3 37½	8 5	Low Water.
		6 20	6 6	
		6 42	6 0	
		7 13	5 7	
		7 31	5 4	
		7 50	4 9	
	8 4 48	9 55½	3 7	High Water.
		11 56	4 9	
		12 20	5 4	
		12 39	5 7	
		13 12	6 0	
		20 16	4 9	
		20 32	4 5	
		20 47	4 2	
	20 14 40	22 7½	3 7	
		23 25	4 2	High Water.
		23 40	4 5	
		0 3	4 9	
☉ — 18.			8 4½	Low Water.
			3 6	High Water, Evening.
		20 50	4 9	
		21 13	4 4	
		21 37	4 0	
	21 1 56	22 56½	3 5	High Water.
		0 14	4 0	
		0 40	4 4	
		1 4	4 9	

Made a new rod to my instrument, the former having, by accident, got broke, and the distance from the bottom of the float to the first division being shorter by 1½ inches than in the former; this will give all distances of the water from the mark greater by that quantity.

1773.	Apparent Time. H ′ ″	Time by the Clock. H ′	Water below a certain Mark. F. I.	Remarks.
☽ — 19.		10 3	3 11	
		10 24	3 9	
	9 17 5	11 14½	3 5½	High Water.
		12 5	3 9	
		12 25	3 11	
		22 4	4 3	
		22 26	3 11	
		22 42	3 9	
	21 41 32	23 41½	3 4	High Water.
		0 37	3 9	
		0 56	3 11	
		1 23	4 3	
♂ — 20.		4 25	7 11	
		4 55	8 4	
	3 49 24	5 50½	8 6	Low Water.

1773.	Apparent Time. H ′ ″	Time by the Clock. H ′	Water below a certain Mark. F. I.	Remarks.
♂ April 20.		6 42	8 4	
		7 20	7 11	
		10 59	3 7	
		11 16	3 4	
	9 56 10	11 58¼	3 2	High Water.
		12 33	3 4	
		13 5	3 7	
		22 19	4 4	
		22 46	4 0	
		22 57	3 10	
	22 20 48	0 24½	2 11	High Water.
☿ — 21.		1 55	3 10	
		2 5	4 0	
		2 27	4 4	
		4 40	7 4	
		4 52	7 6	
	4 30 14	6 35¼	8 5	Low Water.
		8 19	7 6	
		8 30	7 4	
		11 14	3 7	
		11 26	3 5	
		11 43	3 3	
	10 29 2	12 35	2 10	High Water.
		13 28	3 3	
		13 42	3 5	
		13 57	3 7	
			8 6	Low Water.
		23 54	3 6	
		0 27	3 2	
	22 57 2	1 5	2 10	High Water.
		1 45	3 2	
♃ — 22.		2 14	3 6	
			8 7	Low Water.
		12 10	3 7	
		12 28	3 4	
		12 42	3 2	
	11 9 26	13 19½	2 10	High Water.
		13 56	3 1	
		14 10	3 4	
		14 30	3 7	
	17 26 36	19 37½	8 7½	Low Water, Morning.
		23 59	4 2	
		0 45	3 7	
	23 30 8	1 42	3 0	High Water.
♀ — 23.		2 38	3 7	
		3 26	4 2	
			8 8	Low Water, Evening
			3 1	High Water.
			8 7	Low Water, Morning.
		12 1	3 7	
		12 26	3 4	
♄ — 24.	0 3 13	12 48	3 2	High Water.

Obſervations at Duſky Bay, Continued

Obſervations on the Tides

1773	Apparent Time. H ′ ″	Time by the Clock H ′	Water below a certain Mark F	I	Remarks	1773	Apparent Time H ′ ″	Time by the Clock H ′	Water below a certain Mark F	I	Remarks
♄ April 24		13 10	3	4		☉ April 25		11 45	4	6	
		13 35	3	7				12 15	4	0	
		5 12	7	8		☽ —— 26	0 41 59	13 20¼	3	6½	High Water
		5 47	8	3				14 35	4	0	
	18 1 2	6 45¾	8	6	Low Water			15 10	4	6	
		7 44	8	3					8	4	Low Water Evening
		8 20	7	8					8	4	LowWater Morning
☉ —— 25			8	5	Low Water						

I made the preceding Obſervations by the help of a wooden tube, about 12 fee tlong and three inches ſquare, which was placed upright in the water, and fixed firm to a large tree that hung over it. The tube had a ſmall aperture at the bottom, whereby the water was admitted, ſo that the ſwell of the ſea had little effect on the water in the tube; and the diſtance of the water from a mark on the top of the tube, was meaſured by a ſlender rod, divided into feet and inches, from the bottom upwards.

Obſervations at Duſky Bay, Continued.

The Latitude of Duſky Bay, deduced from Obſervations of the Sun and fixed Stars, when on the Meridian.

	Interior Arch.	Exterior Arch.
	″	″
The error of the line of collimation, of the Quadrant, by a mean of the four Obſervations of γ Navis.	10,2 Add.	28,2 Subt.
By a mean of the four Obſervations of δ Navis.	13,2 Add.	32,2 Subt.
The mean of two gives	11,7 Add.	30,2 Subt.

1773.	Latitude by interior Arch. ° ′ ″	Latitude by exterior Arch. ° ′ ″	Declination. ° ′ ″
	By Obſervations of the Sun.		
☽ April 5.	45 47 2	45 46 37	6 7 32
☉ —— 11.	45 48 12½	45 47 38	8 21 47½
♃ —— 15.	45 47 56	45 47 34	9 48 37¾
♀ —— 16.	45 47 56¼	45 47 33¾	10 9 57
☉ —— 18.	45 47 44	45 47 30¾	10 52 5¼
♃ —— 22.	45 48 15½	45 47 55	12 14 13¼
	45 47 51	45 47 29	Mean of all by the Sun.
	By Obſervations of Procyon.		
♂ —— 6.	45 47 25½	45 46 52	5 47 30¾ N.
☉ —— 11.	45 47 2	45 46 49½	
♀ —— 16.	45 47 6	45 46 46½	
☉ —— 18.	45 47 20¼	45 47 5½	
	45 47 13½	45 46 53½	Mean of all by Procyon.
	By Obſervations of β Navis.		
☉ —— 11.	45 46 47	45 47 3½	68 47 11 S.
♀ —— 16.	45 47 9½	——	
☉ —— 18.	45 47 10	45 47 33	
☿ —— 21.	45 47 30	45 47 43½	
	45 47 9	45 47 26½	Mean of all by β Navis.

1773.	Latitude by interior Arch. ° ′ ″	Latitude by exterior Arch. ° ′ ″	Declination. ° ′ ″	
	By Obſervations of γ Navis.			
☉ April 11.	45 48 0	45 47 52	46 40 31½	South.
♀ —— 16.	45 47 26½	45 47 36		
☉ —— 18.	45 47 18	45 47 38		
♃ —— 22.	45 47 45½	45 48 2		
	45 47 37½	45 47 47	Mean of all by γ Navis.	
	By Obſervations of δ Navis.			
♀ —— 16.	45 47 35½	45 47 38⅓	53 52 58⅓	South.
☉ —— 18.	45 47 24¼	45 47 32½		
☿ —— 21.	45 47 35	45 47 44		
♃ —— 22.	45 47 30½	45 47 35¾		
	45 47 31½	45 47 37¾	Mean of all by δ Navis.	
	45 47 37½	45 47 47	Ditto, γ.	
	45 47 9	45 47 26½	Ditto, β.	
	45 47 20	45 47 37	Mean of all the Southern Obſerv.	
	45 47 51	45 47 29	Mean of all by the Sun.	
	45 47 13	45 46 53½	Mean of all by Procyon.	
	45 47 32¼	45 47 11¼	Mean of all by Northern Obſerv.	
	45 47 26	45 47 37	Ditto, Southern Obſervations.	
	45 47 29⅝	45 47 24½	Ditto of the two.	

And by taking the Mean of the two Arches, the Latitude is 45° 47′ 26½″ South.

⁎ Three double altitudes of the Sun's Limb, taken with Hadley's Quadrant from a quickſilver horizon, gave the Latitude of the Obſervatory 45° 48′ 44″, 45° 47′ 30″, and 45° 47′ 23″; the mean of which is 45° 47′ ⅞ South.

Obſervations at Duſky Bay, Continued

Computations of the Clock's Rate of going

1773	Time of Noon by the Clock	Sydereal Time of apparent Noon	Mean Time of apparent Noon	Clock faſt of Sydereal Time	Clock faſt of mean Time	Clock gains on Sydereal Time	Clock gains on mean Time
	H ′	H ′	H	′	H ′ ′	′	″
☽ April 5	1 4 36 4	0 57 15 0	0 2 45 3	7 21 4	1 1 51 1		
♂ — 6	1 8 20 0	1 0 53 7	0 2 27 5	7 26 3	1 5 52 5	0 4 9	4 1 4
☉ — 11	1 26 50,9	1 19 10 7	0 1 2 0	7 40 2	1 25 48 9	0 2 8	3 59 3
♄ — 17	1 49 17 9	1 41 17 2	23 59 29 5	8 0 7	1 49 48 4	0 3 4	3 59,9
☉ — 18	1 53 4,7	1 44 59 7	23 59 15 4	8 5 0	1 53 49 3	0 4 3	4 0 9
						Clock ſtopped	
☽ — 19	1 56 41 9	1 48 42 6	23 59 1 7	7 59 3	1 57 40 2		
♂ — 20	2 0 29 6	1 52 25,8	23 58 48 5	8 3 8	2 1 41 1	0 4 5	4 0,9
☿ — 21	2 4 17 8	1 56 9 5	23 58 35 7	8 8 3	2 5 42 1	0 4 5	4 1 0
					Mean gain of the Clock	0 4 066	4 0 566

Computations of the Rate that Mr Kendall's Watch went at

1773	Time of apparent Noon by the Clock	Time by Clock when the Watch was compared	Time from Noon by the Clock	Clock gains on Watch	Time from Noon by the Watch	Time by the Watch when compared	Time of apparent Noon by the Watch	Mean Time of apparent Noon	Watch ſlow of mean Time	Watch gains on mean Time.
	H ′	H ′	′ ″	′	′ ′	H ″	H ′ ″	H ′	H ′ ″	″
♂ April 6	1 8 20,0	1 30 0	21 40 0	3 6	21 36 4	13 8 47½	12 47 10 85	0 2 27 5	11 15 16,65	
☉ — 11	1 26 50 1	1 43 0	16 9 1	2 7	16 6 4	13 2 2	12 46 14 1	0 1 1 9	11 14 47 8	3 77
♄ — 17	1 49 17 5	1 59 0	9 42 5	1 6	9 40 9	12 55 12½	12 45 31 85	23 59 29 5	11 13 57 6,5	8 36
☉ — 18	1 53 4	2 28 0	34 55,3	5 8	34 49 5	13 20 12½	12 45 23 0	23 59 15 4	11 13 52 4	5 25
☽ — 19	1 56 41 5	2 1 0	4 18 1	0 7	4 17 4	12 49 31½	12 45 14 1	23 59 1 7	11 13 47 6	4 60
♂ — 20	2 0 29 1	2 33 0	32 30 4	5 4	32 25 0	13 17 34	12 45 9 0	23 58 48 5	11 13 39 5	8 10
☿ — 21	2 4 17 8	2 20 0	15 42 2	2 6	15 39 6	13 0 42½	12 45 2 9	23 58 35 7	11 13 32 8	6 70
						By the Watch itſelf	the Clock being taken down			
☉ — 25	12 44 41 7	12 43 57 5	0 43 2	0,0	0 43 2	12 43 57½	12 44 41 7	23 57 49 0	11 13 7 3	6 38
									The mean of all is	4 86

But if the firſt and laſt be taken only, the rate of the Watch will be gaining 6″808 on mean time each day. If a mean be taken of all the Compariſons which can be formed out of the above, its gain on mean time will be 6″,726

Observations at Dusky Bay, Continued.

Computations of the Rate at which Mr. Arnold's Watch (No. 3.) went.

1773.	Time of apparent Noon by the Clock. H ′ ″	Time by Clock when the Watch was compared. H ′ ″	Time from Noon by the Clock. ′ ″	[illegible] ″	Time from Noon by the Watch. ′ ″	Time by the Watch when compared. H ′ ″	Time of apparent Noon by the Watch. H ′ ″	Mean Time of apparent Noon. H ′ ″	Watch slow of mean Time. H ′ ″	Watch gains on mean Time. ″
♂ April 6.	1 8 20,0	1 30 0	21 40,0	5,13	21 34,87	9 35 57,75	9 14 22,88	0 2 27,5	14 48 4,62	
☉ —— 11.	1 26 50,9	1 43 0	16 9,1	3,78	16 5,32	9 21 18,50	9 5 13,18	0 1 1,9	14 55 48,72	93,22
♄ —— 17.	1 49 17,5	1 59 0	9 42,5	2,26	9 40,24	9 2 17, 0	8 52 36,76	23 59 29,5	15 6 52,74	110,67
☉ —— 18.	1 53 4,7	2 28 0	34 55,3	8, 0	34 47,30	9 25 33,75	8 50 46,45	23 59 15,4	15 8 28,95	96,21
☽ —— 19.	1 56 41,5	2 1 0	4 18,1	1,03	4 17, 7	8 53 9, 0	8 48 51,93	23 59 1,7	15 10 9,77	100,82
♂ —— 20	2 0 29,6	2 33 0	32 30,4	7,47	32 22,93	9 19 18,50	8 46 55,57	23 58 48,5	15 11 52,93	103,16
☿ —— 21.	2 4 17,8	2 20 0	15 42,2	3,61	15 38,59	9 0 49,75	8 45 11,16	23 58 35,7	15 13 24,54	91,61
	By Mr. Kendall's Watch, the Clock being taken down.									
☉ —— 25.	12 44 41,7	12 43 57,5	0 43,2	0, 51	0 43,15	8 37 0, 0	8 37 43,15	23 57 49,0	15 20 6,85	100,58
									The mean of all is	99,467

But if the first and last day's Observations be taken only, the gain of this Watch, each day, on mean time, will come out 101″,17. If a mean be taken of all the comparisons which can be formed out of the above Observations, its gain each day, on mean time, will be 101″,051.

Observations at Queen Charlotte's Sound, in New Zealand, made by Mr Bayley

1773	Equal Altitudes Times by Clock marked C — Lower Wire	Middle Wire	Upper Wire	Zenith Distance	Transit over the Meridian	Phenomena and Remarks
	′ ″	H ′ ″	′ ″	°	H ′ ″	
☽ April 19	51 34	21 54 25	51 19¼	75 25 0		☉'s U L — Easterly
	54 49½	21 57 44½	0 35			☉'s L L
	16 50½	22 19 53½	22 57½	71 23 0		☉'s U L
	20 18	22 23 22½	——			☉'s L L
	33 1	22 36 11	39 22	68 55 0		☉'s U L
	36 37½	22 39 49½	——			☉'s L L
♂ —— 20					1 51 56,5	
	6 47	5	——	68 55 0		☉'s L L — Westerly
	10 23	5 7 14½	4 4½			☉'s U L
	23 5	5 20 3	17 58	71 23 0		☉'s L L
	——	5 23 30½	20 28½			☉'s U L
	——	5	42 45	75 25 0		☉'s L L
	51 49½	5	——			☉'s U L
	2 5½	22 5 0½	7 55	74 20 0		☉'s U L — Easterly
	5 25½	22 8 23	11 21			☉'s L L
☿ —— 21					1 54 13,01	
	42 30	5 39 32	36 34½	74 20 0		☉'s L L — Westerly
	45 51	5 42 55½	39 58½			☉'s U L
♀ —— 23	——	23 15 14	18 48	65 48 0		☉'s U L — Easterly
	15 44½	23 19 19½	——			☉'s L L
	21 33	23 25 14	28 50½	64 30 0		☉'s U L
	25 46½	23 29 31½	33 19½			☉'s L L
♄ —— 24					2 0 59,9	
	35 45	4 32 1	28 14	64 30 0		☉'s L L — Westerly
	——	4 36 17	32 34			☉'s U L
	45 46	4 42 10	——	65 48 0		☉'s L L
	——	4 46 17½	42 43½			☉'s U L
	26 40	22 29 44½	32 49	72 54 0		☉'s U L — Flying Clouds — Easterly
	30 10½	22 33 15½	——			☉'s L L
	——	23 1 59	5 31	68 11 0		☉'s U L
	2 27½	23 5 51	——			☉'s L L
☉ —— 25					2 3 16,9	
	3 39	5 0 16	——	68 11 0		☉'s L L — Cloudy Weste
	——	5 4 7	——			☉'s U L
	——	5 32 49	——	72 54 0		☉'s L L
	——		33 14½			☉'s U L
	26 4½	22 29 43½	32 47½	73 30 0		☉'s U L — Easterly
	30 8½	22 33 1½	36 19½			☉'s L L
	——	22 42 26	——	71 35 0		☉'s U L
	——	22 46 3½	49 14½			☉'s L L

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Equal Altitudes. Times by Clock C. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Distance.	Transit over the Meridian.	Phenomena and Remarks.
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″	
☉ April 25.	52 23	22 55 38½	58 56	69 40 0		☉'s U. L. Easterly.
	56 5	22 59 24¼	2 44			☉'s L. L. Easterly.
☽ —— 26.					2 5 34,44	
	14 36½	5 11 17½	7 55½	69 40 0		☉'s L. L. Westerly.
	18 19	5 15 3	11 45½			☉'s U. L. Westerly.
	——	5 24 37	21 26½	71 35 0		☉'s L. L. Westerly.
	——	5 28 15	——			☉'s U. L. Westerly.
	40 30	5 37 25½	——	73 30 0		☉'s L. L. Westerly.
	43 59½	5 40 55½	37 50			☉'s U. L. Westerly.
	Put the Clock 12 minutes forward.					
	54 48	8 58 31¼	2 16	68 2 0	11 39 39,6	β Leonis, East.
	24 30	14 20 48	17 4			Ditto, West.
	21 48½	9 24 23¼	26 57½	——	13 15 21,64	Spica Virginis, East.
	8 54¼	17 6 20½	3 45½			Ditto, West.
	42 53	22 45 58	49 3¼	73 27 0		☉'s U. L. Easterly.
	46 24½	22 49 29¼	52 35½			☉'s L. L. Easterly.
	3 50	23 7 6	10 22	70 20 0		☉'s U. L. Easterly.
	7 32½	23 10 50¼	14 9½			☉'s L. L. Easterly.
♂ —— 27.					2 19 51,8	
	31 43½	5 28 26	25 7	70 20 0		☉'s L. L. Westerly.
	35 26	6 32 10	28 53			☉'s U. L. Westerly.
	52 51½	6 49 45½	46 38	73 27 0		☉'s L. L. Westerly.
	56 21	5 53 17	50 11			☉'s U. L. Westerly.
☿ —— 28.	——	22 45 48½	48 55¼	74 40 0		☉'s U. L. Easterly.
	46 13½	22 49 20½	52 26			☉'s L. L. Easterly.
	58 12	23 1 24	——	72 20 0		☉'s U. L. Easterly.
	1 49½	23 5 2½	——			☉'s L. L. Easterly.
♃ —— 29.					2 24 29,03	
	46 40	5 43 29	——	72 20 0		☉'s L. L. Westerly.
	50 17	5 47 6	——			☉'s U. L. Westerly.
	2 14½	5 59 8½	——	74 40 0		☉'s L. L. Westerly.
	5 43	6 2 4	59 34½			☉'s U. L. Westerly.
♀ —— 30.	48 16½	22 51 22	——	75 0 0		☉'s U. L. Easterly.
	51 46½	22 54 53	58 1½			☉'s L. L. Easterly.
	1 35	23 4 48	7 59½	73 0 0		☉'s U. L. Easterly.
	5 12	23 8 26½	11 41			☉'s L. L. Easterly.
♄ May 1.					2 29 6,95	
	52 35	5 49 21½	46 7	73 0 0		☉'s L. L. Westerly.
	56 11	5 53 2	49 48½			☉'s U. L. Westerly.
	6 0	6 2 53	59 46	75 0 0		☉'s L. L. Westerly.
	9 29	6 6 25½	3 19			☉'s U. L. Westerly.

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773			Equal Altitudes Times by Clock C			Zenith Distance	Transit over the Meridian	Phenomena and Remarks	
			Lower Wire	Middle Wire	Upper Wire				
			′ ″	H ′ ″	″	H ″ ′	H		
♄	May	1	55 3	22 58 11	1 20	74 33 0		☉'s U L	Easterly
			58 37	23 1 46½	4 57½			☉'s L L	
			11 21	23 14 36	17 52	72 9 0		☉'s U L	
			15 3½	23 18 21½	21 40¼			☉'s L L	
☉	——	2					2 31 27,43		
			——	5 44 5	40 47½	72 9 0		☉'s L L	Westerly
			51 6	5 47 51	44 33¾			☉'s U L	
			3 50	6 0 40	57 28	74 33 0		☉'s L L	
			7 22¾	6 4 16	1 6			☉'s U L	
☽	——	3	52 2½	8 55 57	59 50	50 40 0	14 16 4,37	α Centauri, East	
			40 6½	19 36 12	32 18¼			Ditto, West	
☿	——	5	9 47½	23 13 0	16 14	74 40 0		☉'s U L	Easterly
			——	23 16 39½	19 55			☉'s L L	
			28 21	23 31 44¼	35 8	72 0 0		☉'s U L	
			32 11½	23 35 36½	39 4			☉'s L L	
♃	——	6					2 40 52,48		
			49 8½	5 45 43¾	42 16½	72 0 0		☉'s L L	Westerly
			52 58½	5 49 36	46 11½			☉'s U L	
			——	6 4 39½	1 24½	74 40 0		☉'s L L	
			11 31	6 8 19	5 5½			☉'s U L	
			18 15	23 21 31	24 48	74 0 0		☉'s U L	Easterly
			21 58½	23 25 16½	28 31			☉'s L L	
♀	——	7					2 43 15,45		
			——	6 0 50½	57 29½	74 0 0		☉'s L L	Westerly
			——	6	1 17½			☉'s U L	
♄	——	8	Put the Clock 20 minutes forward						
☽	——	17	4 52	1 9 7½	13 29	68 32 0		☉'s U L	Easterly
			9 42¼	1 14 4½	18 36			☉'s L L	
♂	——	18					3 29 48,33		
			49 31½	5 45 10¼	40 41½	68 32 0		☉'s L L	Westerly
			54 27½	5 50 7¼	45 48			☉'s U L	
☿	——	19	10 33	9 53 14	56 57	——	13 1 2,9	Spica Virginis, East	
			11 33½	16 8 52	6 9			Ditto West	
			——	1 44 8	——			☉'s U L	Easterly
			44 52	1	——			☉'s L L	
♃	——	20					3 34 48,02		
			24 28	5	——			☉'s L L	Westerly
			——	5 25 9	——			☉'s U L	

Obſervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Tranſits of the Sun, Moon, and Stars, over the Meridian. Time by the Clock C. First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	Phenomena and Remarks.
	′ ″	′ ″	H ′ ″	′ ″	′ ″	
♂ April 20.	Having fixed up the Tranſit Inſtrument, I levelled the axis, adjuſted the line of collimation, and directed it, by means of the horizontal adjuſting ſcrew, to a very good mark on an iſland to the Northward.					
☿ —— 21.	51 53	52 35—	1 53 18½	54 1½	——	☉'s Firſt L.
		54 46½	1 55 29½	56 12—	56 54½	☉'s Second L.
	Theſe Obſervations being compared with the time of noon deduced from equal altitudes, ſhew that the Inſtrument was 10″,67 in time Weſt of the true meridian.					
♀ —— 23.	Moved the Inſtrument very near the true meridian, where it accidentally cut two very good marks, one about a mile and quarter to the Northward, and the other about 4½ miles to the Southward. By theſe two marks the Inſtrument was generally examined before every Obſervation in the day-time.					
♄ —— 24.	58 28½	59 10½	1 59 54½	0 37		☉'s 1ſt L. } By theſe the Inſtrument is 0″,6.
		1 21⅝	2 2 5½	2 48⅓	3 30½	☉'s 2d L. } Eaſt of the true meridian.
☉ —— 25.	0 44½	1 26⅝	2 2 10—	2 55	——	☉'s 1ſt L. } Theſe make the Inſtrument 1″,15.
			2 4 22—	5 4½	5 47¼	☉'s 2d L. } Eaſt of the true meridian.
☽ —— 26.	3 51½	3 43⅝	2 4 27⅓	5 10½	——	☉'s 1ſt L. } Inſtrument 1″,33 Eaſt of the me-
		5 56—	2 6 39	7 22—	8 4⅓	☉'s 2d L. } ridian.
		15 21½	5 16 7+	6 52⅓		☽'s 1ſt Limb.
		32 42½	5 33 24⅓	34 7		α Orionis.
			7 21 49—			Pollux.
	Put the Clock 12 Minutes forward.					
		57 49½	9 58 32—	59 16—		Regulus.
	38 12⅝	38 55½	11	40 22⅓	41 5½	β Leonis. Inſtrument 0″,54 Eaſt.
	——	14 51⅓	12 16 22—	17 50½	——	α Crucis.
	13 57⅔	14 39—	13 15 22⅓	16 5½	16 45⅓	Spica Virginis. Inſtrument 0″,44 Eaſt of Merid.
		29 52+	13 31 12½	32 33½	——	α Eridani: below the Pole.
	5 52+	6 36	14 7 21½	8 6+	8 50⅓	Arcturus.
	——	——	14 26 27½	——	——	α Centauri.
		29 11+	1 30 31	31 51⅓	——	α Eridani: above the Pole.
♂ —— 27.	17 20—	18 1½	2 18 45⅓	19 28½	——	☉'s 1ſt Limb.
		20 13½	2 20 57½	21 40½	22 23	☉'s 2d Limb.
			4 24 2½			Aldebaran.
	3 20	4 1+	5 4 44—	5 26	6 7½	Rigel.
	42 32½	43 14—	5 43 56½	44 38⅓	45 20½	α Orionis.
	17 47—	18 31⅓	6 19 16+	20 2	20 46½	☽'s 1ſt Limb: very good.
		——	6 36 9			Syrius.
		——	7 20 57½		——	Caſtor.
		27 39+	7 28 22	29 4		Procyon.

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Transits of the Sun, Moon, and Stars, over the Meridian. Times by the Clock C. First Wire. ′ ″	Second Wire ′ ″	Middle Wire H ′ ″	Fourth Wire ′ ″	Fifth Wire ′ ″	Phenomena and Remarks
♂ April 27	——	31 32½	7 32 20⅗	33 8⅗	——	Pollux
	——	——	9 11 33½	——	——	β Navis above the Pole
	——	——	9 17 17+	——	——	α Hydræ
	55 39½	56 21+	9 56 59½	57 48—	58 30—	Regulus
	36 44+	37 27—	11 38 11—	38 54½	39 37½	β Leonis
	——	27 41½	1 29 2½	30 22½	——	α Eridani above the Pole
☿ —— 28	19 37	20 19+	2 21 3—	21 46+	——	☉'s 1st L.
	——	22 31—	2 23 5	23 58½	24 41½	☉'s 2d L.
	9 30⅗	10 14¾	7 11 0	11 45½	12 30	☽'s 1st L.
♃ —— 29	21 55½	22 37¾	2 23 21½	——	——	☉'s 1st L.
	——	——	2 25 33⅗	26 17¼	26 59⅝	☉'s 2d L
		16 47¼	6 16 57¾	18 6¾	——	Canopus above the Pole
	31 44¼	32 31⅗	6 33 11⅕	33 54½	34 38—	Syrius
	——	17 14¾	7 18 4¾	18 54½	——	Castor
	——	24 41½	7 25 24	26 6¼	——	Procyon
	——	——	7 29 23	——	——	Pollux
	1 38—	2 21+	8 3 1	3 51—	4 35½	☽'s 1st L
	——	6 35	9 8 30+	10 25—	——	β Navis above the Pole
	——	——	9 14 19+	——	——	α Hydræ
	——	——	9 54 6½	——	——	Regulus
	33 46⅗	34 29½	11 35 13+	35 56⅕	36 39½	β Leonis
	——	10 25½	12 11 55+	13 14⅗	——	α Crucis
	——	15 13—	12 16 28+	17 42½	——	γ ——
	——	31 16—	12 32 22+	33 42	——	β ——
	——	25 26½	13 26 46½	28 7½	——	α Eridani below the Pole
	——	20 36—	14 22 0	23 24+	——	α Centauri
	——	15 3—	18 16 11½	17 21½	——	Canopus below the Pole
♀ —— 30	——	——	21 6 16½	——	——	β Navis below the Pole
	——	——	1 24 35½	——	——	α Eridani above the Pole
♄ May 1	26 34	27 16+	2 28 0	——	——	☉'s 1st L
	——	——	2 30 12½	30 56⅕	31 38¾	☉'s 2d L
	——	——	6 30 14—	——	——	Syrius
	——	25 38—	7 26 26+	27 14—	——	Pollux
	——	3 37½	9 5 34⅗	7 32	——	β Navis above the Pole
	——	47 34⅕	9 48 17⅞	49 2—	——	☽'s 1st Limb good.
	——	50 25½	9 51 9+	51 52⅗	——	Regulus
	30 49	31 31⅗	11	32 59½	33 42	β Leonis.
	——	——	1 23 6½	——	——	α Eridani above the Pole
☉ —— 2	28 53½	29 35½	2 30 20	——	——	☉'s 1st L
	——	——	2 32 32½	33 15¼	33 58⅗	☉'s 2d L
	——	35 49½	5 36 32⅕	37 15—	——	α Orionis

Obſervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Tranſits of the Sun, Moon, and Stars, over the Meridian. Time by the Clock C.					Phenomena and Remarks.
	First Wire.	Second Wire.	Middle Wire.	Fourth Wire.	Fifth Wire.	
	′ ″	′ ″	H ′ ″	′ ″	′ ″	
☉ May 2.	·	2 10+	9 4 7+	6 3—	—	β Navis: above the Pole.
		9 10	9 9 53—	10 35½	—	α Hydræ.
	48 15½	—	9	50 23½	51 6—	Regulus.
		41 7½	10 41 51	42 33½	—	☽'s 1ſt Limb: very good.
☽ — 3.	31 14	31 57—	2 32 41	—	—	☉'s 1ſt L.
	—	—	2 34 53½	35 37+	36 20	☉'s 2d L.
	—	18 46½	7 19 29½	20 11+	—	Procyon.
	—	—	7 23 28+	—	—	Pollux.
	—	—	9 2 37	—	—	β Navis: above the Pole.
	7 0+	7 41½	9 8 24+	9 6½	9 48½	α Hydræ.
	46 46	47 28+	9 48 11½	48 55—	49 37+	Regulus.
		—	11 29 18½	—	—	β Leonis.
	—	35 53½	11 36 37+	37 20—	—	☽'s 1ſt Limb: good.
	18 14—	19 33½	13 20 54+	22 14½	23 22+	α Eridani: below the Pole.
	55 32—	56 15½	14 57 0+	57 45½	58 29—	Arcturus.
	—	14 40—	14 16 4+	17 28+	—	α Centauri. Inſtrument 0″,25 Eaſt.
	—	9 8—	18 10 18	11 28	—	Canopus: below the Pole.
	—	59 58	21 1 53	3 51—	—	β Navis, Ditto.
	—	—	21 6 20	—	—	κ Navis, Ditto.
♂ — 4.	33 34—	34 17	2 35 1½	—	—	☉'s 1ſt L.
	—	—	2 37 14½	37 58	38 41	☉'s 2d L.
	—	—	7 18 0+	—	—	Procyon.
	—	21 11—	7 21 59½	22 47—	—	Pollux.
	—	27 46	8 28 58	30 9½	—	ι }
	—	59 11½	9 1 9	3 5—	—	β } Navis: above the Pole.
	5 31+	6 13—	9 6 56—	7 38—	8 20—	α Hydræ.
	—	46 0—	9 46 43	47 26½	—	Regulus.
☿ — 5.	—	36 39—	2 37 23—	—	—	☉'s 1ſt L.
	—	—	2 39 36—	40 19½	—	☉'s 2d L.
	4 2½	4 44+	9 5 27+	6 9½	6 51½	α Hydræ.
	0 38½	1 20—	13 2 3—	2 46—	3 27+	Spica Virginis.
	—	—	13 17 55	—	—	α Eridani: below the Pole.
	30 27—	31 19+	13 31 53	32 37	33 19½	☽'s 1ſt Limb: good.
	—	53 17½	13 54 2½	54 47½	—	Arcturus.
	—	11 43—	14 13 7	14 31+	—	α Centauri: above the Pole.
	25 37½	26 19½	14 27 3½	27 47+	28 30—	α Libræ.
	—	15 51—	1 17 11½	18 31½	—	α Eridani: above the Pole.
	—	—	2 12 22	—	—	α Centauri: below the Pole.
♃ — 6.	38 18½	39 0½	2 39 45+	—	—	☉'s 1ſt L.
	—	—	2 41 58½	42 43+	43 25+	☉'s 2d L.
	29 14—	29 55	5 30 38—	—	32 1½	α Orionis.

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Transit of the Sun, Moon, and Stars, over the Meridian. Times by the Clock C. First Wire ′ ″	Second Wire ″	Middle Wire H ′ ″	Fourth Wire ′	Fifth Wire ′	Phenomena and Remarks.
♃ May 6	—	—	6 6 37—	—	—	Canopus above the Pole
	—	14 20+	7 15 3—	15 45	—	Procyon
	—	18 14—	7	19 49⊥	—	Pollux
	—	—	8 6 25⊥	—	—	ι } Navis above the Pole
	—	56 13½	8 58 11+	0 7	—	β } Navis above the Pole
	—	3 15	9	4 40—	—	α Hydræ
	18 25—	19 8+	11 19 51⊥	20 35—	21 18	β Leonis
	—	59 51+	13 0 34—	1 16⊥	—	Spica Virginis,
	—	15 6—	13 16 26—	17 47	—	α Eridani below the Pole.
	51 5—	51 49—	13 52 34—	53 18+	54 2½	Arcturus
	31 30½	32 13½	14 32 58⊥	33 42½	34 21—	☽'s 1st Limb good
	—	8 19⊥	20 4 40—	6 2—	—	ι } Navis below the Pole
	—	55 29+	20 57 25+	59 22+	—	β } Navis below the Pole
	—	14 22	1 15 43—	17 2	—	α Eridani above the Pole
♀ — 7	40 40	41 23—	2 42 7	—	—	☉'s 1st L
	—	—	2 44 20½	45 4⊥	45 48—	☉'s 2d L
	—	—	13 14 57	—	—	α Eridani below the Pole
	49 36—	—	13 51 4⊥	51 49½	52 33—	Arcturus,
	9 12—	9 58—	15 10 45⊥	11 33+	12 19½	α Cor Bor
	17 23—	18 4	15 18 46⊥	19 29—	20 10½	α Serpentis
	36 54⊥	37 38⊥	15 38 23⊥	39 8½	39 52½	☽'s 2d L
	—	12 52⊥	1 14 13	15 33+	—	α Eridani above the Pole
♄ — 8	—	43 46	2 44 30	—	—	☉'s 1st L
	—	—	2 46 44—	47 27½	—	☉'s 2d L
	—	—	8 23 02	—	—	ϑ Navis above the Pole
	—	—	12 57 34⊥	—	—	Spica Virginis
	—	12 8—	13 13 27½	14 49	—	α Eridani below the Pole
	48 6—	48 50—	13 49 34½	50 19½	51 4—	Arcturus.
	21 9⊥	21 51½	14 22 36—	23 19½	24 2	α Libræ.
	7 42½	8 29—	15 9 16+	10 3½	10 49½	α Cor Bor
	15 53—	—	15 17 17	17 59	18 41+	α Serpentis.
	58 7½	58 53—	15 49 40+	—	1 12½	Antares
	—	41 25⊥	16 42 11⊥	42 56	—	☽'s 2d Limb good
	—	—	17 8 28	—	—	α Ophiuchi.
	Put the Clock 20 Minutes forward				—	
☉ — 9	5 26—	6 9—	3 6 54	—	—	☉'s 1st L
	—	—	3 9 7—	9 50½	10 34	☉'s 2d L.
	18 6—	—	9 19 30—	20 12—	20 54—	α Hydræ
	—	58 33¼	9 59 17	0 0½	—	Regulus
	14 41⊥	15 23½	13 16 6½	—	17 31—	Spica Virginis.
	—	—	13 31 58	—	—	α Eridani below the Pole

Obſervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Tranſits of the Sun, Moon, and Stars, over the Meridian. Time by the Clock C. First Wire. ′ ″	Second Wire. ′ ″	Middle Wire. H ′ ″	Fourth Wire. ′ ″	Fifth Wire. ′ ″	Phenomena and Remarks.
☉ May 9.	——	7 21	14 8 6½	8 51—		Arcturus.
	16 13½	26 59½	15 27 47½	28 35—	29 21½	α Cor. Bor.
	34 24+		15 36 48+	36 30½	37 12½	α Serpentis.
			16 18 12			Antares.
	25 33½	26 16—	17 26 59½	27 43—	28 25+	α Ophiuchi.
	3 45½	4 29½	18 5 15+	6 0½	6 45+	☽'s 2d Limb: good.
	——		1 31 14+			α Eridani: above the Pole.
☽ —— 10.	7 50	8 23	3 9 17½			☉'s 1ſt Limb.
	——		11 31½	12 16—	12 59½	☉'s 2d Limb.
	——		7 29 7—			Procyon.
	——	32 17½	7 33 6—	33 53+		Pollux.
	——	39 53—	8 40 4½	41 16—		δ Navis: above the Pole.
			9 12 9¾			β Navis: above the Pole.
		17 19¾	9 18 2¼	18 44½		α Hydræ.
	4 36	5 19½	19 6 5½	65 0¼	7 34¾	☽'s 2d Limb: good.
		28 27	1 29 47¼	31 7		α Eridani.
♂ —— 11.			5 43 12¾			α Orionis.
		14 40½	6 25 34¾	26 8¾		Syrius.
	26 14	26 55½	7 27 37¾	28 20	29 1½	Procyon.
		30 48½	7 31 36¾	32 24¾		Pollux.
	54 54¾	55 36¼	9	57 3½	57 45¾	Regulus.
	13 41¾	14 27½	16 15 14¾	16 1¾	16 46½	Antares.
	22 36¾	23 18½	17 24 2½	24 44¾	25 27½	α Ophiuchi.
		17 16¼	18 18 25½	19 35½		Canopus: below the Pole.
	37 47	38 28¼	19 39 11½	39 53½	40 35½	α } Aquilæ.
	42 14½	42 55¾	19 43 38½	44 20½	45 1¾	β } Aquilæ.
	2 13½	2 56¾	20 3 42¼	4 26½	5 10½	☽'s 2d Limb: good.
		6 56¾	20 7 41¼	8 25		About 25′ S. of ☽'s center, and about the 4th Mag.
			20 10 10			Two ſmall ✱'s nearly in the ſame parallel with the ☽.
			20 11 59½			The firſt of theſe is probably α, and the ſecond γ Capricorni; I cannot find the third in any Catalogue. W.W.
			20 17 14¾			
		36 37½	20 37 49½	39 0¾		ι } Navis: below the Pole.
		8 3½	21 9 59½	11 56½		δ } Navis: below the Pole.
☿ —— 12.	12 40½	13 23½	3 14 8			β } Navis: below the Pole. ☉'s Firſt L.
	13 28		16 22½	17 6¾	17 50¼	☉'s Second L.
			6 34 55¼		36 22¼	Syrius.
		25 25½	7 26 8½	26 50¼		Procyon.
			7 30 6¾			Pollux.
		15 9½	8 16 31½	17 52¼		ι Navis: above the Pole.

Obſervations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Tranſits of the Sun, Moon, and Stars, over the Meridian. Times by the Clock C. First Wire	Second Wire ′ ″	Middle Wire H ′ ″	Fourth Wire ′ ″	Fifth Wire ′ ″	Phenomena and Remarks
☿ May 12		35 54	8 37 6	38 17½		δ Navis above the Pole
			9 9 17¼			β
		14 20¼	9 15 3¼	15 45¾		α Hydræ,
		54 6¾	9 54 50¼	55 33¾		Regulus
			17 22 32¾			α Ophiuchi
		15 47	18 16 55¾	18 5		Canopus below the Pole.
		32 44¾	19 33 27¾	34 10½		γ Aquilæ
	36 17¾	36 59¼	19 37 42½	38 24¾	39 6¼	α
		41 26½	19 42 8¾	42 51½		β
		54 23¾	20 55 6¾	56 49¾		ν Aquarii
	56 23	57 6¼	20 57 50¼	58 34	59 17	☽'s 2d Limb good.
			21 8 29			β Navis below the Pole,
			21 39 15½			υ
		51 15	21 51 57½	52 39¾		α Aquarii
♃ —— 13	15 5½	15 48½	3 16 33½			☉'s 1ſt L.
			18 47¾	19 32½	20 15½	☉'s 2d L.
		39 31	5 40 13¾	40 56		α Orionis
		15 2½	6 16 12¼	17 21¼		Canopus.
			8 15 1½			ι Navis above the Pole
			8 35 35¾			δ
			8 51 48¾			λ
			9 7 46			β
		11 1¾	9 12 14	13 25¾		κ
		36 56¼	9 38 32¾	40 8¾		υ
	51 56	52 37¾	9 53 21½	54 4¼	54 47½	Regulus
			10 31 59¾			[illegible] Navis above the Pole.
			10 33 23¼			[illegible]
♀ —— 14		32 55¼	8 34 7¼	35 18		δ
			9 6 18			β
			9 10 45			κ
			9 37 3¾			υ
		51 8¾	9 51 52¾	52 35¾		Regulus
			10 30 30¼			θ Navis above the Pole
			10 31 53¾			η
			10 32 39¾			μ
		43 33¼	10 44 17¾	45 1¾		α Crateris

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

1773.	Transits of the Sun, Moon, and Stars, over the Meridian. Times by the Clock C. First Wire. ′ ″	Second Wire. ′ ″	Middle Wire. H ′ ″	Fourth Wire. ′ ″	Fifth Wire. ′ ″	Phenomena and Remarks.
♀ May 14.		31 59½	20 33 10	34 21½		δ } Navis: below the Pole*.
			21 9 48¼			κ }
♄ —— 15.		20 46	7 21 28½	22 10½		Procyon.
			8 32 26½			δ Navis: above the Pole.
	8 59¾	9 40½	9 10 23¾	11 5¾	11 47¼	α Hydræ.
		33 45½	9 35 22¼	36 58¼		υ Navis: above the Pole.
			9 50 10¾			Regulus.
☽ —— 17.			13 4 1¾			Spica Virginis.
			13 56 1			Arcturus.
	28 39¾	29 20¾	19 30 4½	30 46¼	31 28	α Aquilæ.
			22 35 13½			Fomalhaut.
		53 41¾	0 54 24¾	55 8½		☽'s 2d L.
			1 19 14:			α Eridani: above the Pole.
♂ —— 18.	27 11	27 54½	3 28 39½	29 24¼		☉'s 1st L.
		30 9¼	3 30 55	31 39½	32 25¼	☉'s 2d L.
		6 13¼	9 5 56	6 38½		α Hydræ.
	44 17¾	44 59¾	9 45 43¾	46 26½	47 8¼	Regulus.
	25 23	26 5¾	11 26 49¾	27 33	28 16¼	β Leonis.
			12 8 4½			γ } Crucis.
		22 36¾	12 23 58	25 19¼		β }
	1 7½	1 49½	13 2 32½	3 14½	3 56¼	Spica Virginis.
			13 54 31¾			Arcturus.
		12 11¾	14 13 36	14 59½		α Centauri.
		22 2¼	20 24 35½	26 9¼		θ Navis.
	32 6½	32 54	20 33 43¼	34 32½	35 20¼	Fomalhaut.
		16 20½	1 17 41¼	19 1		α Eridani: below the Pole.
☿ —— 19.	29 39	30 22¾	3 31 8	31 52¾		☉'s 1st L.
		32 38½	3 33 28½	34 8¼	34 51½	☉'s 2d L.
	21 51¾	22 33¾	5	24 1¼	24 44½	Syrius.
			7 15 30¼			Procyon.
		25 16	8 26 28	27 39½		δ } Navis.
			8 58 38½			β }
		3 42¾	9 4 25½	5 7¾		α Hydræ.
			9 44 13¼			Regulus.
		21 17¾	10 22 51½	24 24		θ Navis.
	23 53¼	24 35¾	11 25 19¾	——	26 46¾	β Leonis.
			13 1 2¼			Spica Virginis.
		15 36¼	13 16 55	18 16		α Eridani.

* Mr. Bayley remarks that the Clock appears to have lost 12″ more than its usual rate between the transits of Regulus and ϑ Navis, which is obvious enough; and it is farther manifest, on examining the Observations, that it happened between the transits of α Crateris and ϑ Navis: Mr. Bayley farther remarks, that he is certain the Clock was not disturbed by any means whatever, as he was in the Observatory during the whole interval, and no other person but himself all that time.

Obſervations by Mr Bayley, at Queen Charlotte's Sound, Continued.

The Error of the Tranſit Inſtrument deduced from Obſervations of Circum-polar Stars

1773	Tranſit above the Pole	Tranſit below the Pole	Interval by the Clock between the Obſervations.	Clock loſes between the Obſervations	Error of Inſtrument where the * paſſed	Phenomena and Remarks
	H ′ ″	H ′ ″	H ′ ″	″	″	
April 26	25 30 31,22	13 31 12,69	11 59 18,23	44,56	1,46	α Eridani
—— 29	6 16 57,37	18 16 11,81	11 59 14,44	44,64	0,46	Canopus
May 1	33 5 34,56	21 6 16,50	11 59 18,06	44,07	1,06	β Navis
—— 3	9 2 37	21 1 53,69	11 59 16,69	44,29	0,49	β Navis
—— 4	33 1 8,53	21 1 53,69	11 59 14,84	44,37	0,39	β Navis
—— 5	25 17 11,38	13 17 55	11 59 16,38	44,83	0,60	α Eridani
	14 13 7	26 12 22	11 59 15,0	44,83	0,09	α Centauri
—— 6	8 5 25,5	20 4 40,19	11 59 14,69	44,82	0,25	ι } Navis.
	8 58 10,79	20 57 25,38	11 59 14,59		0,30	β }
	25 15 42,38	13 16 26,06	11 59 16,32	44,82	0,57	} α Eridani
—— 7	1 15 42,38	13 14 57,0	11 59 14,62	44,81	0,29	}
	25 14 12,94	13 14 57,0	11 59 15,94	44,81	0,38	} α Eridani.
—— 8	1 14 12,94	13 13 28,0	11 59 15,06	44,32	0,32	}
—— 9	25 31 14,25	13 31 58,0	11 59 16,25	44,56	0,40	α Eridani
—— 12	33 16 31,25	20 17 14,75	11 59 16,50	44,74	0,62	ι Navis.
	33 37 05 88	20 37 49,44	11 59 16,44	44,74	0,59	δ } Navis
	33 9 17,25	21 9 59,81	11 59 17,44	44,74	1,09	β }
	9 9 17,25	21 8 29,0	11 59 11,75	44,74	1,75	β Navis
—— 13	33 7 46 0	21 8 29,0	11 59 17,0	44,55	0,78	β } Navis
	33 38 32,75	21 39 15,50	11 59 17 25	44,55	0,90	υ }
—— 18	1 17 40,97	13 16 55,56	11 59 14,59	44,90	0,26	α Eridani

The mean of all the Obſervations of Achernar is 0″,536, of β Navis 0″,587, of ι Navis 0″,453, Canopus gave 0″,46, α Centauri 0″,09, δ Navis 0″,59, and υ Navis 0″,9; and hence the angle under which the inſtrument cut the meridian at the zenith will be $6''\frac{1}{2}$, $4''\frac{1}{2}$, $5''\frac{1}{4}$, 7″, 1″, $8''\frac{1}{2}$, and $8''\frac{3}{4}$ reſpectively; the mean of all which is 6′ of a degree; and ſo much the Northern ſemi circle of the vertical, wherein the inſtrument moved was to the Eaſtward of the true meridian Mr Bayley remarks that the inſtrument was carefully kept to two marks, one about a mile and quarter off to the Northward, and the other to the Southward, at about the diſtance of four miles and an half, from which it ſeldom deviated the breadth of one of the wires.

Obſervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Meridian Zenith Diſtances of the Sun, Moon, and Stars, for determining the Latitude.

1773.	Zenith Diſtances. Interior Arch. ° ′ ″	Exterior Arch. G S V	″	Exterior Arch reduced. ° ′ ″	Barom.	Therm. In	Therm. Out.	Latitude deduced. ° ′ ″	Phenomena.
♃ April 29.	55 50 0	—	—	—	30,18	62	54	41 5 46,4	☉'s L. L.
	55 18 20	58 3 30+	4	55 18 12					☉'s U. L.
	31 6 42	33 0 24	0	31 6 48	30,04	52	47	41 5 36,4	Spica Virginis.
	61 26 3	65 2 4—	5	61 26 3	30,04	52	47	41 5 31,2	Arcturus.
♄ May 1.	56 26 23	60 0 26	0	56 26 25½	30,35	67	59	41 5 24,5	☉'s L. L.
	55 54 27	—		—					☉'s U. L.
	51 3 29	51 1 27+	6	51 3 31½	30,32	57	53		☽'s L. L. 20″ after Tranſit.
☉ — 2.	56 44 30	—	—	—	30,05	56	54½	41 5 30,2	☉'s L. L.
	56 12 27	59 3 26+	10	56 12 32					☉'s U. L.
♂ — 4.	57 20 3	—	—	—	29,96	71	59½	41 5 45,4	☉'s L. L.
	56 47 53	60 2 11	0	56 47 57½					☉'s U. L.
☿ — 5.	57 37 22	—	—	—	29,70	64	57	41 5 41,8	☉'s L. L.
	57 5 32	60 3 19—	6	57 5 26					☉'s U. L.
	32 45 35	34 3 24+	20	32 45 33	29,92	49	46		☽'s L. L. 20″ after Tranſit.
	61 26 26	64 2 5—	13	61 26 21	29,90	47	45	41 5 55,1	Arcturus.
	49 21 40	52 2 19+	24	49 21 27	29,90	47	45	41 5 38,6	α Aquilæ.
♃ — 6.	57 54 4	—	—	—	30,27	65	54	41 5 40,7	☉'s L. L.
	57 22 0	61 0 24+	13	57 22 1					☉'s U. L.
	56 54 40	60 2 26	0	56 54 27	30,30	49	50	41 5 46,5	β Leonis.
	80 24 44	85 3 5	0	80 24 45	30,31	48	49	41 6 8,5	Achernar below the Pole.
	61 26 16	65 2 4	0	61 26 8½	30,31	48	49	41 5 4,45	Arcturus.
	28 42 33	30 2 16	c	28 42 39½	30,32	49	49		☽'s L. L. 19″ after Tranſit of 1ſt L.
♀ — 7.	58 10 20	—	—	—	30,31	65	66	41 5 42 3	☉'s L. L.
	57 39 10	61 2 0—	18	57 39 4½					☉'s U. L.
♄ — 8.	58 26 26	—	—	—	30,06	66	57½	41 5 25,2	☉'s L. L.
	57 55 15	61 3 4	0	57 55 12					☉'s U. L.
	61 26 17	65 2 4	c	61 26 8½	29,98	55	56	41 5 41,9	Arcturus.
	68 32 27	73 0 15—	8	68 32 42½	29,98	55	56	41 5 34,8	α Cor. Borealis.
☉ — 9.	58 43 14	—	—	—	30,04	64	58½	41 5 46,0	☉'s L. L.
	58 11 16	62 0 9—	11	58 11 16					☉'s U. L.
	56 54 40	60 2 26+	5	56 54 38	30,06	60	56	41 5 49,3	β Leonis.
	10 44 21	22 0 15+	25	20 44 30½	30,06	51½	51¼	41 6 2,7	
	17 20 45	18 2 0+	5	17 20 42½	30,06	51½	51¼	41 6 6,0	β Crucis.
	80 24 48	85 3 3+	10	80 24 45 1/1	30,06	51½	51½	41 6 13,0	Achernar, below the Pole.
	18 46 57	20 0 5—	6	18 47 7	30,06	51½	51½	41 6 10,2	α Centauri.
	23 24 18	24 3 28—	6	23 24 23½	29,95	53	53		☽'s L. L. 20″ before tranſit of her latter L.

Obſervations by Mr Bayley, at Queen Charlotte's Sound, Continued

1773	Zenith Diſtances: Interior Arch ° ′ ″	Zenith Diſtances: Exterior Arch G S V	″	Exterior Arch reduced ° ′ ″	Barom	Therm In	Therm Out	Latitude deduced ° ′ ″	Phenomena
☽ May 10	58 59 23	———	——	———	29,81	70	58½	41 5 53,4	☉ s L L
	58 27 12	62 1 13—	12	58 27 4½					☉ s U L
	24 18 16	25 3 22—	5	24 18 21⅓	29,90	48	48½		☽ sL L 24 before tranſit of her latter L
♂ —— 11		63 0 24—	11	59 14 7	30,10	48	54	41 5 49,6	☉ s L L
	58 43 5	62 2 17	0	58 43 6					☉'s U L
	26 18 54	28 0 9	0	26 18 57	30,30	45	44		☽'sL L 21 before tranſit of her latter L
☿ —— 12	59 29 33	———	——	———	30,30	56	53	41 5 40,3	☉'s L L
	58 57 41	62 3 18+	10	58 57 46					☉ s U L
	29 9 13	31 0 13—	10	29 9 18	30,10	45½	45		☽ sL L 24″ before tranſit of her latter L
♃ —— 13	59 44 32				30,18	62	54	41 5 32,0	☉ s L L
	59 12 18	62 0 20—	10	59 12 22⅓					☉'s U L
♀ —— 14	59 59 14	63 3 30	0	59 59 7	30,29	64	54½	41 5 41,6	☉ s L L
	59 27 28	63 1 22—	8	58 27 21					☉ s U L
	17 20 36	18 2 0	0	17 20 37½	30,30	49½	49	41 6 11	β Crucis
	11 12 18	11 3 26	0	11 12 22	30,30	49½	49	41 5 50½	α Centauri
	80 24 45	85 3 3	0	80 24 45⅓	30,30	49½	49	41 6 9	Achernar, below the Pole
	18 9 46	19 1 16	0	18 9 50½	30,30	49½	49	41 6 0	β Centauri
♄ —— 15	60 13 36	64 0 31	0	60 13 37½	30,20	64	58	41 5 44	☉ s L L
	59 41 24	63 2 22	0	59 41 32½					☉'s U L
♂ —— 17	48 4 10	51 1 4—	18	48 4 16	29,48	42½	43		☽ sL L 23″ before tranſit of her latter L

The mean of all theſe Latitudes, Mr Bayley makes 41° 5 47½ South If a mean of the 24 Obſervations of the Sun and Stars, to the Northward of the zenith, be taken, and alſo of the nine Obſervations of Stars to the South of the zenith, and then a mean of theſe two means be taken for the Latitude, it will be found 41° 5 53″½ South

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Lunar Observations for the Longitude of the Place.

1773.	Time by the Clock. H ' "	Distance of the ☉'s and ☽'s Limbs. ° ' "	Zenith Distance ☉'s U. L. ° ' "	Altit. of ☽'s U. L. ° '	Barom.	Therm. Inn.	Therm. Out.	Longitude East. ° ' "	Remarks.
♃ April 29.	5 32 20	79 52 30	70 16 50	23 34	30,14	53	50	174 14 0	Hazy.
	35 46	52 50	70 46 50	23 45					
	38 35	53 40	71 11 12	24 15					
		— 4 30		+ 3¼	Errors of the Quadrants.				
♄ May 1.	6 37 22	104 35 30	79 59 40	23 28	30,32	52	54½	173 50 37½	Clear, and the Objects distinct.
	41 24	104 36 34	80 37 35	24 3					
	44 54	104 37 20	81 12 30	24 32	Errors as above.				
		Supplemental Distance ☉ and ☽'s L.	Zenith Distance ☽'s U. L.	Alt. of the ☉'s L. L.					
♄ — 8.	22 58 26,8	30 37 0	75 42 49	7 56	30,01	56	52½		Mean of 5 Obs.
	23 11 30½	30 42 53	77 57 14	9 58¼	30,01	56	52½		Mean of 4.
	23 22 18	30 49 31	79 49 47	11 36¼	30,01	56	52½		Mean of 4.
		— 58		+ 2¼	Errors of the Quadrants.				
☉ — 9.	23 30 7,8	44 32 44	70 2 49	12 13½	29,95	61	57½		Mean of 5 Obs.
	23 44 22,8	44 39 34	72 35 46	14 18½	29,95	61	57½		Ditto of 5.
	23 55 30¾	44 45 46	74 36 28	15 52	29,95	61	57½		Ditto of 4.
	0 4 50	44 50 29	76 14 57	17 9	29,95	57	61½		Ditto of 4.
	0 13 45½	44 56 17½	78 7 0	18 30¼	29,95	57	61½		Ditto of 4.
		— 1 00		+ 2¼	Errors of the Quadrants.				
☽ — 10.	0 35 30,8	58 18 27	72 40 4	20 44½	29,82	64	56		Mean of 5 Obs.
	0 47 12	58 24 31	73 47 12	22 0¼	29,82	64	56		Ditto of 4.
	0 56 39½	58 30 1¼	75 24 2	23 3½	29,82	64	56		Ditto of 4.
	1 4 48	58 34 36	76 51 32	23 54¼	29,82	64	56		Ditto of 4.
	1 13 39	58 39 16	78 25 44	24 50	29,82	64	56		Ditto of 4.
		— 1 0		+ 2¼	Errors of the Quadrants.				
		Dist. ☉ and ☽'s nearest Limbs.	Zenith Distance ☽'s U. L.	Altit. ☉'s L. L.					
♂ — 11.	23 35 9	109 30 45	51 35 56	11 58	30,07	54	47	173 58 1½	Very clear.
	37 38	29 42	52 2 41	12 18					
	39 46	29 0	52 25 7	12 37					
	42 11	28 30	52 51 16	12 57					
	44 17	27 22	53 13 43	13 15					
	46 3.	26 37	53 32 36	13 31					
		— 4 19½		+2' 50"					

Obſervations by Mr Bayley, at Queen Charlotte's Sound, Continued.

Lunar Obſervations for the Longitude of the Place

1773	Time by the Clock H ′ ″	Diſtance of the ☉ and ☽'s Limbs ° ′ ″	Zenith Diſtance ☽'s U L ° ′ ″	Alt of ☉'s L L ° ′	Barom	Therm In	Therm Out	Longitude East ° ′ ″	Remarks
♂ May 11	23 48 02	109 25 54	53 54 28	13 49					
	50 17	25 30	54 18 53	14 7					
	52 43	23 58	54 45 10	14 28					
	55 20	21 56	55 13 24	14 50	30,07	54	47	174 2 46½	
	57 34	22 15	55 37 26	15 9					
	0 0 11	20 25	56 5 27	15 31					
	0 2 49	109 20 0	56 34 19	15 52					
	5 6	18 58	56 59 40	16 12					
	7 30	18 10	57 25 30	16 32	30,07	54	47	173 53 33	
	10 7	16 42	57 54 21	16 51					
	12 13	14 50	58 16 42	17 10					
	14 30	14 0	58 41 33	17 28					
	0 17 10	109 13 6	59 10 47	17 48					
	19 49	12 22	59 40 0	18 8					
	22 10	10 50	60 5 58	18 27	30,07	54	47	173 38 36	During all theſe Obſervations, the air was clear, and the objects very diſtinct
	24 24	9 52	60 30 20	18 46					
	26 55	8 20	60 57 42	19 5					
	29 20	7 25	61 24 20	19 23					
		— 4 19½		+ 2 50″ Errors of the Quads.					
☿ —— 12	23 32 42	97 8 25	44 7 22	10 58					
	35 21	7 18	32 38	11 21					
	37 57	5 54	57 26	11 43	30,25	54	54½	174 19 10	
	40 45	4 52	45 25 56	12 6					
	43 2	4 0	48 30	12 28	Errors as above				
♀ —— 14	2 28 21	72 50 40	52 21 32	24 22					
	33 27	49 10	53 9 20	24 50					
	37 8	48 40	53 44 36	25 8	30,31	47	48	174 11 30	
	40 0	47 26	54 9 56	25 24					
	42 26	45 36	54 34 28	25 37					
	2 44 55	72 44 50	54 58 30	25 48					
	50 49	42 40	55 57 0	26 18	30,31	47	48	173 51 51	
	54 2	41 34	56 30 35	26 32					
	59 26	40 0	57 25 24	26 55					
		Errors as before							

⁂ The height of the eye, above the ſea, was, at a medium, 85 feet.

Obſervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Obſervations of different Sorts for the Longitude of the Place.

1773.	
♃ May 6.	Jupiter's 2d ſatellite immerged at 19 h. 52′ 57″ by the Clock, or at 17 h. 10′ 23″6 apparent time. At the time of this Obſervation, the air was very clear, and the limbs of the planet, as well as its belts, exceedingly diſtinct and well defined; the magnifying power uſed was 150 times.
☿ —— 12.	ν Aquarii immerged behind the Moon's bright limb at 19 h. 11′ 16″½, or at 15 h. 54′ 45″ apparent time: the magnifying power uſed was 90 times.
	Emerſion from the dark limb at 20 h. 33′ 58″¼, or 17 h. 16′ 58″½ apparent time. Theſe Obſervations alſo are very good, the air being very clear, and the objects diſtinct and well defined: the ſame magnifying power was uſed as at the imerſion.

Obſervations for the Dip of the Magnetic Needle.

1773.	Face of the Inſtrument. East. ° ′	Face of the Inſtrument. Weſt. ° ′	After changing the Poles of the Needle. Face of the Inſtrument. East. ° ′	After changing the Poles of the Needle. Face of the Inſtrument. Weſt. ° ′
	64 35	64 30	64 21	64 36
	65 0	64 45	64 37	64 15
	64 49	64 46	64 32	64 20
	64 52	64 25	64 20	64 27
	64 54	64 35	64 29	64 39
	64 37	65 1	64 50	64 26
	65 3	65 0	64 54	64 49
	64 45	65 0	64 45	64 52
	64 45	64 43	64 19	64 50
	64 30	64 35	64 22	64 28
	64 25	64 36	64 40	64 41
	64 50	64 32	64 47	64 40
	64 53	64 54		
	64 35	64 37		
	65 0	65 0		
	64 47	64 43		

Mr. Bayley had here the ſame troubleſome buſineſs with his dipping needle that we had at the Cape of Good Hope: for he remarks, that after labouring a whole day to balance it, he found himſelf juſt where he began, and that he balanced it, after all, by diſcharging the magnetiſm, and adjuſting the needle to an equilibrium, firſt, in an horizontal poſition, by means of the balls which are on the wires, that have the ſame direction with the needle, and then in a vertical poſition, by means of thoſe which are on the wires at right angles to it. The mean of all the dips, before the poles were changed, is 64° 53′8; the mean of all afterwards 64° 35′: the mean of both is 64° 44′4.

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

Observations for the Variation of the Compass

1773	Zenith Distance ☉'s U L ° ′ ″	Azimuth of the ☉'s center ° ′	Variation East ° ′
☉ May 2	80 30 32	N 46 30 E	
	79 55 4	46 18	
	79 31 52	45 25	
	79 14 3	45 8	13 24¾
	78 58 37	45 2	
	78 40 31	44 57	
	78 22 5	44 51	
♄ — 8	80 6 36	N. 43 40 E	
	79 37 36	43 25	
	79 18 24	43 15	
	79 3 35	42 50	13 08¼
	78 42 48	42 35	
	78 20 10	42 0	
	78 7 0	41 55	
☿ — 19	76 0 0	N 34 15 E	
	75 40 38	34 0	13 16
	75 27 15	33 40	
♃ — 20	75 47 38	N 61 15 W	
	76 6 40	61 20	
	76 37 10	61 26	
	76 51 50	61 47	
	77 10 15	61 54	
	77 29 20	63 0	
	77 43 0	63 25	13 40½
	77 59 40	63 36	
	78 24 18	64 06	
	78 35 20	64 15	
	78 56 20	65 0	
	79 15 25	65 20	
	79 37 15	65 40	
	80 0 0	65 45	

The following Variations were obtained by placing the Compass in the meridian, and turning its index to the Northern and Southern meridian marks alternately

Variation East ° ′	Variation East ° ′	Variation East ° ′	Variation East ° ′
13 30	13 45	13 40	13 50
13 35	13 46	13 35	13 53
14 0	13 25	13 40	13 47
13 44	13 20	13 17	13 44
13 40	13 42	13 19	13 40
13 30	13 50	13 42	13 20
13 35	13 45	13 27	13 27
13 37	13 30	13 29	13 42
13 47	13 29	13 36	13 29
13 50	13 41	14 08	13 19
13 27	13 37	13 46	13 48
13 19	13 35	13 40	13 50
13 15	13 38	13 35	13 41

The mean of all these gives the variation 13° 38′¼ E

By Observations of Amplitudes

1773	Amplitude of the ☉'s center ° ′	Variation East ° ′
♀ May 7	N 54 3 E	13 25⅓
☿ — 12	52 20	13 18
♃ — 13	52 0	13 18
♀ — 14	51 44	13 39
♂ — 18	50 15	13 25⅓
☿ — 19	50 05	13 17
♃ — 20	49 55	13 09
The mean is		13 21

And the mean of all gives the variation of the Compass 13° 31 16 East

Obse

ASTRONOMICAL OBSERVATIONS.

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Observations on the Tides.

1773.	Time by the Clock H ′	Apparent Time. H ′	Height of the Water. F.	I.	Remarks.
☽ May 3.	21 15		3	6 ¼	
	21 20		3	6 ¼	
	21 30		3	7 ½	
	21 35		3	7,7	Wind still,
	21 40		3	7,8	and water
	21 45		3	7,8	smooth.
	21 50		3	7,8	
	21 55		3	7,8	
	22 0		3	7 ¼	
	22 10		3	7	
	22 20		3	6 ¾	
♂ —— 7.	9 30		3	9	
	9 35		3	10	
	9 55		3	10,5	
	10 0		3	10 ¾	Weather as
	10 10		3	11	above.
	10 20		3	11 ½	
	10 30		3	11	
	10 40		3	11	
	10 45		3	10	
	10 55		3	9	
	21 50		4	2	
	22 0		4	3	
	22 7		4	3,7	
	22 15		4	4,1	
	22 20		4	4,5	Blowing
	22 25		4	4,5	strong, with
	22 35		4	4,5	some swell.
	22 45		4	4,5	
	22 50		4	4,0	
	22 55		4	3,7	
	23 5		4	3,0	
	23 15		4	2,0	
☿ —— 5.	22 30		3	11 ¼	
	22 45		4	0 ½	
	22 50		4	1	
	23 10		4	1 ¾	
	23 15		4	2 ¼	Strong wind,
	23 25		4	3 ¼	and much
	23 30		4	4	swell.
	23 40		4	4	
	23 50		4	4	

1773.	Time by the Clock H ′	Apparent Time. H ′	Height of the Water. F.	I.	Remarks.
☿ May 5.	0 0		4	4	
	0 10		4	3	
	0 20		4	2	
	0 30		4	1	
	0 40		3	11	
♃ —— 6.			0	0 ¼	Low Water.
	10 50		4	1 ¼	
	11 0		4	2	
	11 10		4	2 ½	
	11 20		4	3	Calm, and
	11 30		4	3	the Water
	11 35		4	3,2	smooth.
	11 40		4	3	
	11 50		4	2 ½	
	12 0		4	1 ½	
	Low Water,		0	1	Below 0.
	23 30		4	2 ½	
	40		4	3	
	50		4	4	Calm, and
	0 0		4	4	the Water
	10		4	4	smooth.
	20		4	4	
	30		4	3 ½	
	40		4	2 ½	
♀ —— 7.	Low Water,		0	2 ½	Below 0.
	11 35		4	5 ½	
	11 45		4	6 ½	
	11 50		4	7	
	12 0		4	7 ¼	Fine weather,
	12 10		4	7 ½	and the wa-
	12 25		4	7 ½	ter still.
	12 30		4	7 ½	
	12 40		4	7 ½	
	12 45		4	7	
	12 50		4	6 ½	
	13 0		4	5 ½	
	Low Water.		0	3	Below 0.
	0 5		4	7 ½	
	0 20		4	8 ½	
	0 25		4	9	
	0 30		4	9 ¼	Weather, &c.
	0 40		4	9 ¼	as above.

Obſervations by Mr Bayley, at Queen Charlotte's Sound, Continued

Obſervations on the Tides

1773	Time by the Clock H ′	Apparent Time H	Height of the Water F I	Remarks
♀ May 7	0 50		4 9½	
	1 0		4 9	
	1 10		4 8½	
	1 20		4 7½	
♄ — 8	Low Water		0 4½	Below 0
	12 30		4 9	
	12 40		4 10,4	
	12 50		4 11,2	
	13 10		5 1	Weather,
	13 15		5 1,1	&c as above
	13 25		5 1	
	13 35		4 11,2	
	13 40		4 10,4	
	13 55		4 9	
	Low Water		0 5½	Below 0
	1 0		4 4½	
	1 10		4 6	
	1 20		4 7	Before theſe
	1 30		4 7½	the Clock
	1 40		4 7½	had been put
	1 50		4 7	20 forward
	2 0		4 5½	
	2 10		4 5	
☉ — 9	Low Water		0 3,4	Below 0
	13 30		4 8½	
	13 40		4 9½	
	13 50		4 11	
	14 0		4 11½	
	14 5		4 11¼	
	14 15		4 11¾	
	14 25		4 11¼	
	14 30		4 11½	
	14 35		4 10¾	
	14 40		4 9½	
	14 50		4 9	
	Low Water		0 2½	Below 0
	1 50		4 6	
	2 0		4 6½	
	2 10		4 6¼	
	2 20		4 7½	Moderate
	2 30		4 7¼	weather

1773	Time by the Clock H ′	Apparent Time H	Height of the Water F I	Remarks
☉ May 9	2 40		4 7½	
	2 50		4 7½	
	3 0		4 6½	
	3 5		4 5½	
☽ — 10	Low Water		0 0½	Below 0
	Strong wind all night, and ſo high a ſea that I could not come near the Inſtrument			
♂ — 11	2 30		3 9	
	2 40		3 10	Strong wind,
	3 10		3 11½	and the water
	3 20		4 0	very rough
	3 30		4 0	
	3 40		3 11½	
	3 50		3 10	
	4 0		3 9	
	Weather too bad to obſerve all night, and every day afterwards until the 15th			
♄ — 15	5 40		2 10	
	5 55		2 10½	
	6 10		2 10½	
	6 20		2 11	Weather
	6 40		2 11½	fine and
	7 0		2 11½	wind ſtill
	7 20		2 11½	
	7 30		2 11	
	7 40		2 10	
☽ — 17	7 0		3 2	
	7 10		3 4	Weather
	7 30		3 5½	ſerene and
	7 40		3 5½	quiet
	7 50		3 5½	
	8 0		3 5½	
	8 30		3 4	
	8 50		3 2	
	Low Water		0 0½	
	21 30		3 9½	
	21 42		3 10	
	21 50		3 10½	
	22 0		3 11	

Obſervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Obſervations on the Tides.

1773.	Time by the Clock H ′	Apparent Time. H ′	Height of the Water. F. I.	Remarks:
☽ May 17.	22 10		3 11	Weather
	22 20		3 11	calm and
	22 30		3 10½	ſerene: The
	22 40		3 10	Moon above
	22 50		3 9¼	the horizon.
♂ —— 18.	Low Water.		0 2¼	
	22 20		4 11½	
	22 30		5 0½	
	22 50		5 2½	Weather
	23 0		5 3	good: Moon
	23 10		5 3½	above the
	23 20		5 3½	horizon.
	23 30		5 3	
	23 40		5 2	
	23 50		5 0½	
	0 0		4 11½	
☿ —— 19.	Low Water.		1 4¼	
	22 40		4 8	
	22 50		4 9¼	
	23 0		4 10	Water ſtill:
	23 20		4 11	Moon above
	23 30		4 11¾	the horizon.
	23 50		5 0¼	
	0 0		5 0½	
	0 10		5 0½	
	0 20		5 0¼	

1773.	Time by the Clock H ′	Apparent Time. H ′	Height of the Water. F. I.	Remarks.
☿ May 19.	0 30		4 11¾	
	0 50		4 11	
	1 0		4 10	
	1 10		4 9¼	
	1 20		4 8	
♃ —— 20.	11 40		4 11½	
	11 50		5 1¼	
	12 0		5 1¾	
	12 10		5 1¾	Weather
	12 20		5 1¼	calm, and
	12 30		5 1½	water undiſ-
	12 40		5 1	turbed.
	12 50		5 0½	
	13 0		5 0	
	Low Water.		0 1½	
	23 50		4 10	
	0 0		4 11	
	0 10		4 11¼	
	0 15		4 11¾	Weather fine
	0 20		5 0	and water
	0 30		5 0	ſmooth:
	0 40		5 0	Moon above
	0 45		4 11¾	the horizon.
	0 50		4 11¼	
	1 10		4 10	
♀ —— 21.	Low Water.		0 11¾	

Mr. Bayley made the preceding obſervations, by means of a glaſs tube of about $\frac{7}{10}$ of an inch internal diameter, with an exceeding ſmall aperture at the bottom to admit the water; by which means, the ſurface of the water in the tube was rendered ſo ſteady, as not to alter $\frac{1}{10}$ of an inch when the ſwell of the ſea was two feet. This tube was laſhed faſt to a ten-feet fir-rod, divided into feet, inches, and quarters. The rod was faſtened to a ſtrong poſt, fixed firm and upright in the water; and he is certain he could diſcern a difference of $\frac{1}{10}$ of an inch in the height of the water. Mr. Bayley has not deduced the apparent times from thoſe by the clock; but it may be readily done from the preceding Obſervations of equal altitudes.

Observations by Mr Bayley, at Queen Charlotte's Sound, Continued

Computations of the Rates which the Clock C and Mr Arnold's Watch, No 1 went at

1773	Time by the Watch when compared	Time by Clock C when compared with the Watch	Clock faster than the Watch	Clock gains on Watch between Comparisons	Interval between the Comparisons	Watch loses on the Clock in 24 Hours	Clock loses on Sydereal Time per Day	Watch loses on Sydereal Time	Watch loses on mean Time each Day
	H ′	H ′ ″	H ′ ″	′ ″	H ′		′ ″		
♂ April 20	11 2	2 37 30	15 9 36	2 50	23 25	2 54,35	1 27,0	21,35	24,85
☿ —— 21	10 48	2 0 26	12 26	2 50	24 44	2 44,92	1 29,0	13,92	17 42
♃ —— 22	11 32	2 47 16	15 16	2 50½	23 56	2 50,90	1 29,0	19 90	23 40
♀ —— 23	11 28	2 46 6½	18 6½	2 39½	23 18	2 44,29	1 29,0	13,29	16,79
♄ —— 24	10 46	2 6 46	20 46	2 45½	24 01	2 45,39	1 28,30	13 69	17 19
☉ —— 25	10 47	2 10 31½	23 31½	2 50	24 4	2 49,54	1 28,66	18,20	21 70
☽ —— 26	10 51	2 17 21½	26 21½	2 56½	24 22	2 53,0	1 29,25	22,25	25,75
♂ —— 27	11 13	2 54 18	41 18	2 50	23 43	2 52,0	1 28 58	20,58	24 08
☿ —— 28	10 56	2 40 8	44 8	2 51	23 56	2 51,46	1 28,58	20 0	23 50
♃ —— 29	10 52	2 38 59	46 59	2 49	23 52	2 49,90	1 29,39	18,29	21 79
♀ —— 30	10 44	2 33 48	49 48	2 51	24 6	2 50,30	1 28,22	18 52	22 02
♄ May 1	10 50	2 42 39	52 39	2 48	23 58	2 48,22	1 28,22	16,44	19 94
☉ —— 2	10 48	2 43 27	55 27	2 54	23 55	2 54 60	1 28,79	22 39	25,89
☽ —— 3	10 43	2 41 21	58 21	2 54¼	24 6	2 53 55	1 28,68	22,23	25,73
♂ —— 4	10 49	2 50 15¼	16 1 15¼	2 57	24 1	2 56,60	1 29,0	25,80	29,30
☿ —— 5	10 50	2 54 12¼	4 12¼	2 53	23 49	2 54 30	1 29,77	24,07	27 57
♃ —— 6	10 39	2 46 5¼	7 5¼	2 53¼	24 5	2 53,15	1 29 74	22 09	26,59
♀ —— 7	10 44	2 53 59	9 59	2 54	23 54	2 54,72	1 29,1	24 20	27,70
♄ —— 8	10 38	2 50 53	12 53	3 3	24 5	3 02 40	1 28,73	31 13	34,63
☉ —— 9	10 43	3 18 56	35 56	3 2½	24 2	3 02 26	1 20 19	31,45	34 95
☽ —— 10	10 45	3 23 58½	38 58½	3 1½	23 55	3 01 60	1 29,19	30,79	34,29
♂ —— 11	10 10	3 22 0	42 0	2 49	23 59	2 49,12	1 29,67	18 79	22 29
☿ —— 12	10 39	3 23 49	44 49	2 54	24 6	2 53 28	1 29,57	22 85	26 35
♃ —— 13	10 45	3 32 43	47 43	2 50½	23 50	2 51,71	1 29,19	20 90	24,40
♀ —— 14	10 45	3 35 33½	50 33½	2 45¾	24 10	2 44,59	1 41,32	25,91	29,41
♄ —— 15	10 45	3 38 19¼	53 19¼	3 01	25 20	2 51,40	1 29,18	20 58	24 08
☉ —— 16	12 05	5 1 20¼	56 20¼	2 52¼	23 15	2 57 97	1 29,18	27,15	30,6
☽ —— 17	11 20	4 19 13	59 13	2 47	23 43	2 48,97	1 29,36	18,33	21,83
♂ —— 18	11 03	4 5 0	17 2 0	2 39	23 30	2 42,48	1 29,90	12,38	15 88
☿ —— 19	10 33	3 37 39	4 39	3 04	25 52	2 50 70	1 30,10	20 80	24,30
♃ —— 20	12 25	5 32 43	7 43						

Obfervations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Obfervations made on Board the Ship, with Hadley's Quadrant.

1773.	Time by No. 1.	Altitude of the ☉'s L. L.	Error of the Quadrant.	Barom.	Thermom. C.	Thermom. D.	Watch flow of mean Time.	Watch lofes on mean Time.	[illegible]
	H ′ ″	° ′ ″	′ ″				H ′ ″	″	
♄ May 29.	6 32 $2\frac{5}{6}$	7 14 45	— 1 45	29,7	53	48	13 32 58,3	33,75	12
☽ —— 31.	6 27 22	6 31 $15\frac{1}{4}$	— 4 49	30,0	61	57	13 34 05,8	28,90	11
☿ June 2.	6 31 $41\frac{2}{3}$	7 5 $20\frac{1}{4}$	— 7 27	30,2	62	52	13 35 03,6	37,0	12
☉ —— 6.	6 48 25	9 24 54	—12 $22\frac{1}{2}$	30,3	60	52	13 36 54,6		12

Mr. Bayley, by including thefe with the preceding computations of the Watch's rate of going, concludes that its mean rate of lofing, while here, was $25''\frac{2}{3}$ a day on mean time. He farther computes that the Watch was 13 h. 28′ 51″,3 too flow for mean time on Thurfday, May the 20th, at noon.

He alfo makes his Clock to have loft at the rate of 1′ 29″,003 a day on fydereal time; in which computation he rejects its lofs between the 14th and 15th of May. It was fet up in the fame manner as at the Cape, and the bob of the pendulum was 84, 2 feet above the furface of the fea at low water. The pendulum, when firft fet agoing, vibrated only 1° 50′ on each fide of 0, but increafed its arcs of vibration until the 26th of April, when it fwung 1° 53′ each way, and on May 15th it had increafed to 1° 54′. Length of the pendulum the fame as at Greenwich.

Obfervations at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Time by Mr. Kendall's Watch. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Diftance.	Time of apparent Noon by the Watch.	Phenomena and Remarks.
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″	
☉ May 23.	57 $48\frac{1}{2}$	10 1 58	6 14	69 0 0		☉'s U. L. } Eafterly.
	2 54	7 11	11 30			☉'s L. L.
☽ —— 24.					12 16 35,3	
	30 $0\frac{1}{2}$	14 25 44:	——	69 0 0		☉'s L. L. } Wefterly.
	35 5	30 56	——			☉'s U. L.
♄ —— 29.	8 04	10 12 $37\frac{1}{4}$	17 $10\frac{1}{2}$	69 0 0		☉'s U. L. } Eafterly.
	13 $35\frac{1}{2}$	18 $9\frac{1}{4}$	22 52			☉'s L. L.
☉ —— 30.					12 18 07,95	
	22 27	14 17 $48\frac{1}{4}$	13 $8\frac{1}{4}$	69 0 0		☉'s L. L. } Wefterly.
	27 $55\frac{1}{2}$	23 26	18 53			☉'s U. L.

Obſervations at Queen Charlotte's Sound, in New Zealand, Continued

1773	Equal Altitudes Time by Mr Kendall's Watch: Lower Wire	Middle Wire	Upper Wire	Zenith Diſtance	Time of apparent Noon by the Clock	Phenomena and Remarks
	″	H		°	H	
☿ June 2	10 52¾	10 15 23⅓	20 02	69 20 0		☉'s U L } Eaſterly
	16 22¼	21 6	25 55¼			☉'s L L
♃ — 3					12 19 20,71	
	22 6¼	14	———	69 20 0		☉'s L L } Weſterly
	27 37	14 23 06	18 27			☉'s U L

*** It appears from the above Obſervations, that Mr Kendall's Watch was gaining now at the rate of 9″,05 a day on mean time; and by comparing it with Mr Arnold's, (No 3.) the latter appears to have loſt, while here, at the rate of 1′ 34″,158.

Obſervations for the Variation of the Compaſs

1773	Zenith Diſtance of the ☉'s L L	Azimuth of the ☉'s center	Variation Eaſt
	°		°
♀ May 21	71 49 0	N 24 45 E	14 14
	71 26 45	24 15	14 02¼
	71 9 30	23 40	14 05
	70 52 15	23 05	14 08
	70 36 45	22 15	14 29
	70 16 15	21 35	14 28
		Mean of all is	14 14 35

Obſervations for the Dip of the Needle

1773	Face of the Inſtrument: Eaſt	Weſt	
	°	° ′	
♀ May 21	65 10	65 5	
	65 20	65 15	
	65 0	64 50	
	65 10	65 03⅓	Means
	Changed the Poles		
♃ June 3	64 0	64 05	
	64 15	64 30	
	63 55	64 25	
	64 0	64 20	
	64 02	64 20	Means
So End	64 39	Mean of all	

I made the preceding Obſervations on the open beach, at a place which bears S 84° 10′ W by compaſs, from Mr Bayley's Obſervatory. Sound paſſed from one place to the other exactly in 18″; perhaps ⅕th of a ſecond may be added, on account of the time loſt in letting go the Watch. Two guns were fired at each place, and the times noted at the other, between ſeeing the exploſion and hearing the report, none of which differed ſenſibly from another. Theſe experiments were made on a very calm evening, a little after ſun ſetting; the Barometer ſtanding at 30,32, and the Thermometer at 52°.

Obſervations made at Point Venus, in Otaheite.

1773.	Equal Altitudes, Times by Clock B. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Diſtance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″	
♃ Aug. 26.	20 13¼	6 20 10½	24 6½	65 20 0		☉'s U. L. Eaſterly.
	22 37	24 34	26 29¼			☉'s L. L.
♀ —— 27.					10 23 33,21	
	24 42¼	14 22 44¼	21 48¼	65 20 0		☉'s L. L. Weſterly.
	27 07¼	25 09½	23 13			☉'s U. L.
	50 47¼	5 52 42	54 40¼	72 20 0		☉'s U. L. Eaſterly. W. B
	53 7¼	55 6½	57 0½			☉'s L. L.
♄ —— 28.					10 25 45,41	
	58 35½	14 56 39¼	54 44½	72 20 0		☉'s L. L. Weſterly. W. B.
	0 55¼	58 59¼	57 5½			☉'s U. L.
☉ —— 29.	39 17	6 41 15	43 11	62 5 0		☉'s U. L. Eaſterly. W. B.
	41 42	43 39½	45 38.			☉'s L. L.
☽ —— 30.					10 30 05⅓	
	18 43	14 ——	——	62 5 0		☉'s L. L. Weſterly. W. B.
	21 6¼	14 19 8½	17 12:			☉'s U. L.
	4 19¼	6 ——	——	70 20 0		☉'s U. L. Eaſterly.
	——	6 8 34	10 28¼			☉'s L. L.
	13 6¼	6 15 01	16 55	68 20 0		☉'s U. L.
	15 27	17 22½	19 16¼			☉'s L. L.
	11 20¼	7 13 21¼	15 21	55 20 0		☉'s U. L.
	13 49	——	——			☉'s L. L.
♂ —— 31.					10 32 14,51	
	50 54	13 ——	——	55 20 0		☉'s L. L. Weſterly.
	53 24	13 51 22½	49 22			☉'s U. L.
	49 14¼	14 47 19½	45 25	68 20 0		☉'s L. L.
	——	49 40½	47 46¼			☉'s U. L.
	——	14 56 6	54 11	70 20 0		☉'s L. L.
	0 22	——	——			☉'s U. L.

Obſervations on Point Venus, in Otaheite, Continued

1773	Comparifons of the two Clocks with each other					
	Clock B			Clock C		
♃ Aug 26	6	38	0	6	37	56
♀ —— 27	11	10	11¾	11	10	0
	14	28	17¼	14	28	0
	5	58	45	5	58	0
♄ —— 28	10	43	53¼	10	43	0
	15	2	0¾	15	1	0
	6	15	27½	6	14	0
☉ —— 29	10	57	86¼	10	56	0
	6	31	10¼	6	29	0
☽ —— 30	10	59	19	10	57	0
	14	22	24¼	14	20	0
	6	31	53	6	29	0
♂ —— 31	10	44	0¼	10	41	0
	15	12	8¼	15	9	0

Computations of the going of the two Clocks

1773	Time of apparent Noon by Clock B	Sydereal Time of apparent Noon	Clock faſt or ſlow of Sydereal Time	Clock B loſes on Sydereal Time	Time by B of comparing the Clocks	Time by C of comparing the Clocks	Time paſt Noon by B when compared	B before C at Noon	B gains on C each Day	C loſes on Sydereal Time
	H ′	H ′	′ ″		H ′	H ′ ″	″	′		″
♀ Aug 27	10 23 33 21	10 23 01 5	+0 31 71	1 27 20	11 10 11 75	11 10 00	46 38 54	0 10 38	0 42 34	2 9,54
♄ —— 28	25 45 41	26 40 9	—0 55 41	1 28 91	10 43 53 25	10 43 00	18 7 84	0 52 72	0 42 70	2 11 61
☽ —— 30	30 05 33	33 58 65	—3 53 32	1 29,15	10 59 19 00	10 57 00	29 13 67	2 18 13	0 41 78	2 10,93
♂ —— 31	32 14 51	37 36 98	—5 22 47		10 44 00 25	10 41 00	11 45 74	2 59 91		
			Mean	1 28 42					Mean	2 10,69

The clocks were fixed up, as uſual, by means of the iron block and frame; and ſtood both in one tent The pendulums of the ſame length as at Greenwich; that of B vibrated over an arch of 1° 37½ each way from the perpendicular for the firſt two or three days, and afterwards over an arch of 1° 40 C varied its vibrations from 1° 45 on each ſide to 1° 48, and back again to 1° 45′ The times of equal altitudes were always noted by B, and C compared with it in the ſame manner as the watches were

Obſervations on Point Venus, in Otaheite, Continued.

Computations of the going of Mr. Kendall's Watch.

1773.	Time of apparent Noon by Clock B. H ′ ″	Time by Clock of comparing the Watch. H ′ ″	Time paſt Noon by the Clock. ′ ″	Clock gains on the Watch. ″	Time paſt Noon by the Watch. H ′ ″	Time by the Watch when compared. H ′ ″	Time of apparent Noon by the Watch. H ′ ″	Mean Time of apparent Noon. H ′ ″	Watch too ſlow for mean Time. H ′ ″	Watch gains on mean Time. ″
♀ Aug. 27.	10 23 33,21	10 49 41,25	26 08,04	2,54	0 26 05,50	10 37 0	10 10 54,50	0 1 16,9	13 50 22,40	
♄ —— 28.	25 45,41	11 6 2,75	40 17,34	3,92	0 40 13,42	10 51 0	10 10 46,58	0 0 59,8	13 50 13,22	9,18
☽ —— 30.	30 05,33	10 41 38,50	11 33,17	1,10	0 11 32,07	10 22 0	10 10 27,93	0 0 24,5	13 49 56,57	8,31
♂ —— 31.	32 14,51	11 2 58,75	30 44,24	2,95	0 30 41,29	10 41 0	10 10 18,71	0 0 06,2	13 49 47,49	9,08
									Mean	8,863

Computations of the going of Mr. Arnold's Watch, (No. 1.) W. B.

1773.	Time of the Comparison by Watch. H ′ ″	Time of the Comparison by Clock. H ′ ″	Clock before the Watch. H ′ ″	Clock gains on the Watch between Comparison. ′ ″	Interval between the Comparisons. ′ ″	Watch loſes on the Clock each Day. H ′	Clock loſes on Sydereal Time. ′ ″	Watch loſes on Sydereal Time. ′ ″	Watch loſes on mean Time. ′ ″
♀ Aug. 27.	7 51 0	11 2 6¼	3 11 6¼						
♄ —— 28.	7 23 0	10 37 23	3 14 23	3 16¾	23 32	3 20,7	1 27,20	4 47,90	0 51,40
☉ —— 29.	9 57 0	13 14 56	3 17 56	3 33	26 34	3 12,1	1 28,91	4 41,01	0 44,51
☽ —— 30.	7 26 0	10 46 49½	3 20 49½	2 53½	21 29	3 13,6	1 28,91	4 42,51	0 46,01
♂ —— 31.	9 46 0	13 10 17½	3 24 17½	3 28	26 20	3 9,4	1 29,15	4 38,55	0 42,05
									0 45,093

Obſerved Zenith Diſtances of the Sun and Stars for finding the Latitude.

1773.	Zenith Diſtances. Interior Arch. ° ′ ″	Exterior Arch. G. S. V.	+ ″	Barometer.	Thermometers. In Tent.	Out.	Phenomena and Remarks.
☉ Aug. 29.	26 36 22	28 1 17	8	30,20	82½	90	☉'s U. L. on the meridian.
☽ —— 30.	56 2 46	59 3 5	22	30,15	71	70	α Lyræ } on the meridian.
	39 56 25	42 2 14	12	30,15	70½	69	α Pavonis }
♂ —— 31.	26 25 42	28 0 25	10	30,16	84½	93	☉'s L. L. on the meridian.
	30 13 47	32 1 0	6	30,09	75½	75½	α Ophiuchi } on the meridian.
	56 3 40	59 3 7	10	30,08	75½	73½	α Lyræ }
	39 56 22	42 2 13	26	30,09	73½	71½	α Pavonis }

Obſervations on Point Venus, in Otaheite, Continued

Obſervations for the Longitude of the Place

1773	Time by the Clock B	Altitude of the ☉'s L L	Zenith Diſtance of the ☽'s U L	Diſtance of the ☉ and ☽'s Limbs	
	H ′ ″	° ′	° ′	° ′ ″	
♀ Aug 27	14 41 14	20 33	47 52	116 12 0	Longitude 210° 45′ Hill
	14 43 21	20 4	47 23	12 0	
	14 45 45	19 31	46 48¼	12 45	
	14 47 6	19 14	46 31¼	13 0	
	14 48 12	18 59	46 19	13 0	
	14 49 13	18 45	46 04½	13 0	
	Errors of the Quad	+ 1½	—0½	+ 1 0	
	14 54 04	17 36	44 55¾	116 20 30	Longitude 210° [illegible] Hill W B
	14 56 04	17 11	44 28½	21 10	
	14 57 09	16 57	44 13¾	21 30	
	14 58 38	16 38	43 53	22 5	
	14 59 54	16 18	43 35¼	22 20	
	15 01 03	16 04	43 20	22 45	
	Errors of the Quad	+ 1½	—0½	—3 42	

⁂ The Moon's zenith diſtance was obſerved with the Aſtronomical Quadrant, the Sun's altitude with an Hadley's Sextant. Height of the eye above the ſea 13 or 14 feet.

1773	
☉ Aug 29	At 18 h 41′ 05″ by the Clock, or 8 h 16′ 46″,1 apparent time, the ſmall ſtar which precedes β Capricorni diſappeared; the brightneſs of the Moon rendered the Star ſo faint that I was not abſolutely certain it then immerged behind the Moon's Limb. At 18 h 50′ 50″, or 8 h 26′ 30″,2 apparent time, β Capricorni immerged behind the Moon's dark Limb; an exceeding good Obſervation. At 20 h 25′ 32″, or 10 h 1′ 3″,4 apparent time, β Capricorni emerged, very good alſo. W B

Obſervations on Point Venus, in Otaheite, Continued.

Obſervations for the Variation of the Compaſs.

1773.	Zenith Diſtance ☉'s U. L.	Azimuth of the ☉'s center.	Variation Eaſt.
	° ′	° ′	° ′
♄ Aug. 28.	78 $43\frac{3}{4}$	N. 71 0 E.	
	78 $22\frac{1}{2}$	70 50	
	77 50	70 35	5 $28\frac{3}{5}$
	77 $32\frac{3}{4}$	70 10	
	77 $15\frac{1}{2}$	70 05	
☉ —— 29.	71 41	N. 67 40 E.	
	71 0	67 25	
	70 12	66 35	6 $09\frac{1}{4}$
	69 $33\frac{1}{2}$	68 0	
	69 $01\frac{1}{2}$	66 15	
	68 $28\frac{1}{2}$	66 20	
☽ —— 30.	74 18 L. L.	N. 69 55 E.	
	73 $45\frac{3}{4}$	69 35	
	73 $17\frac{1}{2}$	69 05	5 $42\frac{2}{3}$
	72 47	68 50	
	72 $27\frac{3}{4}$	69 0	
	Altitude ☉'s L. L.		
♂ —— 31.	4 57	N. 84 30 W.	
	4 43	84 10	
	4 21	84 50	5 $4\frac{1}{12}$
	3 53	84 47	
	3 23	85 0	
	Zenith Diſtance ☉'s L. L.		
	78 $58\frac{1}{2}$	N. 71 50 E.	
	78 $27\frac{1}{2}$	71 25	5 $44\frac{11}{12}$
	78 $0\frac{1}{2}$	71 40	
	77 $33\frac{1}{4}$	N. 71 25 E.	
	77 $14\frac{3}{4}$	71 5	5 $48\frac{1}{3}$
	76 [illegible]$\frac{1}{4}$	70 50	
		The mean is	5 $39\frac{2}{3}$

Obſervations for the Dip of the Needle, made by Mr. Bayley.

1773.	Face of the Inſtrument. Eaſt.	Weſt.	
	° ′	° ′	
♂ Aug. 31.	28 30	29 15	
	28 27	28 45	
	28 14	28 47	
	28 20	29 0	
	28 37	28 50	
	28 15	28 37	
	28 35	29 0	
	29 05	29 35	
	29 02	28 52	
	28 45	29 0	
	28 50	29 0	
	29 0	29 27	
	28 $38\frac{1}{2}$	29 $0\frac{2}{3}$	Means.
	Changed the Poles.		
	30 15	29 50	
	30 21	30 21	
	30 02	30 48	
	31 0	30 29	
	30 56	30 56	
	30 50	31 0	
	31 0	31 10	
	30 50	30 56	
	30 0	30 30	
	31 0	30 15	
	30 15	30 25	
	31 0	30 30	
	30 $37\frac{1}{12}$	30 $35\frac{5}{6}$	Means.
	28 $38\frac{1}{2}$	29 $0\frac{2}{3}$	Means bef. changing the poles.
	29 38″	29 $48\frac{1}{4}$	Means of both.
	29 $43\frac{1}{4}$	Dip of the Needle's S. End.	

Obſervations on Point Venus, in Otaheite, Continued

Obſervations on the Tides, by Mr Bayley

1773	Times by Clock B (H ′)	Apparent Time (H ′)	Height of the Water (F I)	Remarks
♄ Aug 28	8 29		3 3½	
	8 37		3 4¼	
	8 40		3 4¾	
	9 07		3 4¾	High Water in the Morn
	9 18		3 4½	
	9 57		3 3¾	
	10 06		3 3¾	
	10 27		3 3¼	
☉ — 29	15 32		2 3¼	
	15 35		2 3¾	
	15 46		2 3	
	15 48		2 3¼	
	16 10		2 2¾	Low Water in the Even
	16 12		2 2¼	
	16 24		2 2½	
	16 30		2 2¾	
	16 35		2 3	
	4 30		2 5	
	5 05		2 4	Low Water in the Morn
	5 18		2 4½	
	5 27		2 5	
	10 5		3 5½	
	10 9		3 6¼	
	10 18		3 6½	High Water
	10 22		3 6	
☽ — 30	10 33		3 6¼	
	10 36		3 5½	
	10 45		3 5	
	10 49		3 5½	
	11 0		3 5	
	4 40		2 3¾	
	4 50		2 3½	
	5 0		2 3½	Low Water in the Morn
	5 10		2 3½	
	5 25		2 4¼	
	5 39		2 4½	
	9 44		3 5½	
	9 50		3 6¼	
	9 56		3 5	
	0 08		3 6¼	
	10 20		3 6½	High Water
♂ — 31	10 40		3 6¾	

1773	Times by Clock B (H ′)	Apparent Time (H)	Height of the Water (F I)	Remarks
♂ Aug 31	11 0		3 0	
	11 30		3 5½	
	11 40		3 5¼	
	11 50		3 4¼	
	16 1[illegible]		2 5	
	16 2[illegible]		2 5¾	
	16 3[illegible]		5½	
	16 45		[illegible] 5½	
	16 49		5¼	Low Water in the Evening
	17 0		4¾	
	17 18		5	
	17 [illegible]9		[illegible]	
	17 35		5	

The following Obſervations taken by myſelf may contribute towards determining the times of high water

1773	Times by Clock B (H ′ ″)	Apparent Time (H)	Height of the Water (F I)	Number of Obſervations with Remarks
♄ Aug 28			5 5	L W mean of
	6 48 0		4 9½	Mean of Obſ
	7 17 0		4 8	Ditto of 5 ditto
	7 56 0		4 6	Ditto of 5 ditto
	9 0 48		4 4¼	H W mean of 8
	10 2 30		4 6	Mean of 4 Obſ
☉ — 29	10 57 10		4 8	Ditto of 6 ditto
	11 31 6		4 9½	Ditto of 10 ditto
			5 7½	L W mean of 8
			5 6	Ditto, ditto of 5
	6 51 30		4 11	Mean of 6 Obſ
	7 30 50		4 9	Ditto of 6 ditto
	8 11 0		4 6½	Ditto of 6 ditto
	10 21 49		4 2½	H W mean of 6
☽ — 30	12 21 0		4 6	Mean of 6 Obſ
	13 10 48		4 9	Ditto of 15 ditto
	14 7 45		4 11	Ditto of 8 ditto
			5 5	L W mean of 8

The above Obſervation of Mr Bayley [illegible] were made in the ſame manner [illegible] I took were made in the ſame [illegible] Dusky Bay in New Zealand [illegible] I ſhould have continued theſe Obſervations longer if the Natives had not taken away my tube

Obſervations at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Times by Clock B. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Diſtance. ° ′ ″	Time of apparent Noon by the Clock. H ′ ″	Phenomena and Remarks.
♀ Nov. 5.	24 39	10 27 01½	29 21½	60 0 0		☉'s U. L. Eaſterly.
	27 36¼	29 56½	32 15¾			☉'s L. L.
♄ —— 6.					14 44 46,06	
	2 16¼	18 59 56¼	57 36½	60 0 0		☉'s L. L. Weſterly.
		19 2 52	0 33½			☉'s U. L.
☽ —— 8.	55 29¼	9 57 47½	0 08½	67 0 0		☉'s U. L. Eaſterly.
	58 05	10 0 45	3 04¼			☉'s L. L.
	55 56	10 58 16¼	0 37	55 40 0		☉'s U. L.
	58 51½	11 1 12½	3 34			☉'s L. L.
♂ —— 9.					14 55 46⅙	
	52 58½	18 50 37½	48 18¼	56 40 0		☉'s L. L. Weſterly.
	55 56:	53 34¾	51 14½			☉'s U. L.
	53 30:	19 51 10½	48 52	67 0 0		☉'s L. L.
	56 26	54 6	51 47½			☉'s U. L.
	6 9	12 8 39½		43 20 0		☉'s U. L. Eaſterly.
	9 16:	11 45	14 12			☉'s L. L.
☿ —— 10.					14 59 28,63	
	49 55:	17 47 26	45 01	43 20 0		☉'s L. L. Weſterly.
	53 04½	50 34				☉'s U. L.
♃ —— 11.	14 31¼	10 16 52½	19 12	65 0 0		☉'s U. L. Eaſterly.
	17 37¾	19 48	22 6¼			☉'s L. L.
	9 39¾	11	14 21	54 40 0		☉'s U. L.
	12 30:	11 14 56½	17 17			☉'s L. L.
♀ —— 12.					15 6 54,51	
	1 30½	18	56 49	54 40 0		☉'s L. L. Weſterly.
	4 28	19 2 7	59 47			☉'s U. L.
	56 40½	19 54 21	52 02	65 0 0		☉'s L. L.
	59 37	19 57 19	54 58			☉'s U. L.
	12 7	10 14 26	16 44½	66 0 0		☉'s U. L. Eaſterly.
	15 1	17 21	19 39			☉'s L. L.
	56 29	10 58 48½	1 7	57 40 0		☉'s U. L.
	59 23½	11 1 42½	4 3			☉'s L. L.
♄ —— 13.					15 10 38,71	
	22 12½	19		57 40 0		☉'s L. L. Weſterly.
	25 5	19 22 45	20 27½			☉'s U. L.
	6 39	20 4 19	2 1	66 0 0		☉'s L. L.
	9 35	7 13½	4 55½			☉'s U. L.
	22 2¼	10 24 23¾		64 40 0		☉'s U. L. Eaſterly.
	24 58¼	27 18½	29 37			☉'s L. L.
	39 49½	10 42 9	44 28	61 20 0		☉'s U. L.
	42 45	45 5	47 24			☉'s L. L.
☉ —— 14.					15 14 22,33	

Observations on Point Venus, in Otaheite, Continued

Observations on the Tides, by Mr Bayley

1773	Times by Clock B (H ′)	Apparent Time (H ′ ″)	Height of the Water (F I)	Remarks
♄ Aug 28	8 29		3 3½	
	8 37		3 4¼	
	8 40		3 4¾	
	9 07		3 4¾	High Water in the Morn
	9 18		3 4½	
	9 57		3 3¾	
	10 06		3 3¾	
	10 27		3 3¼	
☉ —— 29	15 32		2 3¼	
	15 35		2 3¾	
	15 46		2 3	
	15 48		2 3¼	
	16 10		2 2¾	Low Water in the Even
	16 12		2 2¼	
	16 24		2 2½	
	16 30		2 2¾	
	16 35		2 8	
	4 30		2 5	
	5 05		2 4	Low Water in the Morn
	5 18		2 4½	
	5 27		2 5	
	10 5		3 5½	
	10 9		3 6¼	
	10 18		3 6½	High Water
	10 22		3 6	
☽ —— 30	10 33		3 6¼	
	10 36		3 5½	
	10 45		3 5	
	10 49		3 5½	
	11 0		3 5	
	4 40		2 3¾	
	4 50		2 3½	
	5 0		2 3½	Low Water in the Morn
	5 10		2 3½	
	5 25		2 4¼	
	5 39		2 4½	
	9 44		3 5½	
	9 50		3 6¼	
	9 56		3 5	
	10 08		3 6¼	
	10 20		3 6½	High Water
♂ —— 31	10 40		3 6¾	
♂ Aug 31	11 0		3 6½	
	11 30		3 5½	
	11 40		3 6¼	
	11 50		3 4¾	
	16 12		2 5½	
	16 22		2 5⅜	
	16 32		2 5½	
	16 45		2 5¾	
	16 49		2 5¼	Low Water in the Evening
	17 0		2 4⅞	
	17 16		2 5	
	17 9		2 5′	
	17 35		2 5½	

The following Observations, taken by myself, may contribute towards ascertaining the times of high water

1773	Times by Clock B (H ′ ″)	Apparent Time (H ′ ″)	Height of the Water (F I)	Number of Observations with Remarks
♄ Aug 28			5 5	L W mean of 7
	6 48 0		4 9½	Mean of 7 Obs
	7 17 0		4 8	Ditto of 5 ditto
	7 56 0		4 6	Ditto of 5 ditto
	9 0 48		4 4¼	H W mean of 8
	10 2 30		4 6	Mean of 4 Obs
☉ —— 29	10 57 10		4 8	Ditto of 6 ditto
	11 34 6		4 9½	Ditto of 10 ditto
			5 7½	L W mean of 8
			5 $6\frac{4}{10}$	Ditto, ditto of 5
	6 51 30		4 11⅔	Mean of 6 Obs
	7 30 50		4 9	Ditto of 6 ditto
	8 11 0		4 6⅔	Ditto of 6 ditto
	10 21 49		4 2½	H W mean of 6
☽ —— 30	12 21 0		4 6	Mean of 6 Obs
	13 10 48		4 9	Ditto of 15 ditto
	14 7 45		4 11⅓	Ditto of 8 ditto
			5 $5\frac{1}{10}$	L W mean of 8

The above Observations of Mr Bayley's, were made in the same manner and by the same mea[illegible] thos[illegible] t Queen Charlotte's Sound; and th[illegible] which I took, were made [illegible] th[illegible] s[illegible] m[illegible] ma[illegible] er as those at Dusky Bay in New Zealand: I should have continued these Observations longer if the Natives had not taken way my t[illegible]be

Obſervations at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Times by Clock B. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Diſtance. ° ′ ″	Time of apparent Noon by the Clock. H ′ ″	Phenomena and Remarks.
♀ Nov. 5	24 39	10 27 01½	29 21½	60 0 0		☉'s U. L. } Eaſterly.
	27 36¼	29 56¼	32 15¼			☉'s L. L.
♄ —— 6.					14 44 46,06	
	2 16¼	18 59 56¼	57 36½	60 0 0		☉'s L. L. } Weſterly.
		19 2 52	0 33½			☉'s U. L.
☽ —— 8.	55 29¾	9 57 47½	0 08½	67 0 0		☉'s U. L. } Eaſterly.
	58 05	10 0 45	3 04¾			☉'s L. L.
	55 56	10 58 16¾	0 37	55 40 0		☉'s U. L.
	58 51¼	11 1 12¾	3 34			☉'s L. L.
♂ —— 9.					14 55 46⅔	
	52 58¾	18 50 37½	48 18¼	55 40 0		☉'s L. L. } Weſterly.
	55 56:	53 34¾	51 14¼			☉'s U. L.
	53 30:	19 51 10¼	48 52	67 0 0		☉'s L. L.
	56 26	54 6	51 47¼			☉'s U. L.
	6 9	12 8 39½		43 20 0		☉'s U. L. } Eaſterly.
	9 16:	11 45	14 12			☉'s L. L.
☿ —— 10.					14 59 28,63	
	49 55:	17 47 26	45 01	43 20 0		☉'s L. L. } Weſterly.
	53 04½	50 34				☉'s U. L.
♃ —— 11.	14 31¼	10 16 52½	19 12	65 0 0		☉'s U. L. } Eaſterly.
	17 37¾	19 48	22 6¼			☉'s L. L.
	9 39¾	11	14 21	54 40 0		☉'s U. L.
	12 30:	11 14 56¼	17 17			☉'s L. L.
♀ —— 12.					15 6 54,51	
	1 30½	18	56 49	54 40 0		☉'s L. L. } Weſterly.
	4 28	19 2 7	59 47			☉'s U. L.
	56 40½	19 54 21	52 02	65 0 0		☉'s L. L.
	59 37	19 57 19	54 58			☉'s U. L.
	12 7	10 14 26	16 44½	66 0 0		☉'s U. L. } Eaſterly.
	15 1	17 21	19 39			☉'s L. L.
	56 29	10 58 48¼	1 7	57 40 0		☉'s U. L.
	59 23½	11 1 42¼	4 3			☉'s L. L.
♄ —— 13.					15 10 38,71	
	22 12½	19		57 40 0		☉'s L. L. } Weſterly.
	25 5	19 22 45	20 27½			☉'s U. L.
	6 39	20 4 19	2 1	66 0 0		☉'s L. L.
	9 35	7 13½	4 55½			☉'s U. L.
	22 2¼	10 24 23¾		64 40 0		☉'s U. L. } Eaſterly.
	24 58¼	27 18½	29 37			☉'s L. L.
	39 49¼	10 42 9	44 28	61 20 0		☉'s U. L.
	42 45	45 5	47 24			☉'s L. L.
☉ —— 14.					15 14 22,33	

Obſervations at Queen Charlotte's Sound, in New Zealand, Continued

1773	Equal Altitudes Times by Clock B — Lower Wire	Middle Wire	Upper Wire	Zenith Diſtance	Time of apparent Noon by the Clock	Phenomena and Remarks
	″	H		″	H ′	
☉ Nov 14.		19 43 58½	41 40½	61 20 0		☉ s L L
	49 14½	46 53	44 36½			☉ s U L Weſterly
	4 7	20 1 45½	59 28	64 40 0		☉ s L L
	7 1¾	4 43	2 24			☉ s U L
	7 9	10 9 29¹	11 49½	68 0 0		☉ s U L
	10 6½	12 26	14 45½			☉ s L L Eaſterly
	23 14	10 25 32½	27 50½	65 0 0		☉'s U L
		28 27½	30 47½			☉ s L L
☽ —— 15					15 18 08 ¾	
	10 29½	20 08 09½		65 0 0		☉'s L L
	13 25	11 5	8 46½			☉ s U L Weſterly
	26 32½	20 24 13		68 0 0		☉ s L L
	29 30	27 9	24 49			☉ s U L
	47 27	10 49 48½		61 0 0		☉ s U L Eaſterly
	50 24	52 44	55 2½			☉ s L L
♂ —— 16					15 21 54½	
	53 42	19 51 24	49 5	61 0 0		☉ s L L Weſterly
	56 39	54 18½	52 0½			☉ s U L
☿ —— 17	57 02	10 59 23	1 41¹	60 20 0		☉ s U L Eaſterly,
	59 58	11 2 18	4 37½			☉'s L L
♃ —— 18					15 29 31,52	
	59 20½	19 57 01½	54 41	60 20 0		☉'s L L Weſterly
	2 13	59 57½	57 39			☉'s U L
♀ —— 19		13 10 47		37 20 30		☉ s U L Eaſterly
	11 24		16 27½			☉ s L L
♄ —— 20					15 37 10,47	
	3 9	18		37 20 30		☉ s L L Weſterly
		18 3 43½				☉'s U L
☉ —— 21	38 53	12 41 15½	43 39	43 40 0		☉'s U L Eaſterly
	41 52	44 16	46 40½			☉ s L L
☽ —— 22					15 44 51,38	
	48 01	18 45 37	43 12½	43 40 0		☉'s L L Weſterly
	51 01	48 38	46 14½			☉ s U L

Obſervations at Queen Charlotte's Sound, in New Zealand, Continued.

Obſerved Zenith Diſtances of the Sun and fixed Stars.

1773.	Zenith Diſtances. Interior Arch. ° ′ ″	Exterior Arch. ° ′ ″	+ ″	Barom.	Thermom. In Tent.	Out.	
♂ Nov. 9.	10 16 50	10 3 27	23	30,07	50	47	Fomalhaut on the Meridian.
	55 4 25	58 3 0	7				α Pegaſi, Ditto.
☉ —— 14.	22 32 25	24 0 5	20	30,33	72¼	70	☉'s U. L. Ditto.
☽ —— 15.	22 49 32	24 1 13	3	30,17	71	67	☉'s L. L. Ditto.
	22 16 59	23 3 3	0				☉'s U. L. Ditto.
	17 17 18	18 1 25	0	30,12	51½	50	Achernar, Ditto.
♂ —— 16.	68 53 56	73 1 31	15	30,0	57	54½	α Andromeda, Ditto.
	17 16 50	18 1 24	23	29,99	54½	55	Achernar, Ditto.
☿ —— 17.	21 46 37	23 0 29	20	29,99	71	76	☉'s U. L. Ditto.
	22 19 15	23 3 8	0				☉'s L. L. Ditto.
♃ —— 18.	22 5 7	23 2 8	0	29,70	71½	73½	☉'s L. L. Ditto. Cloudy.
♄ —— 20.	68 53 55	73 1 31	20	29,64	50½	47½	α Andromeda, Ditto.
	17 17 33	18 1 26	13	29,65	48½	46½	Achernar, Ditto.

The following Obſervations, for finding the Error of the Line of Collimation of the Quadrant, were made in the ſame manner, and by the ſame means, as thoſe at Point Venus, in Otaheite: The poſition of the Quadrant was changed after every ſix Obſervations.

	Zenith Diſtance of the upper hole: the Quadrant direct. Interior Arch. ° ′ ″	Exterior Arch. G. S. V.	+ ″	Zenith Diſtance of the lower hole: the Quadrant inverted. Interior Arch. ° ′ ″	Exterior Arch. G. S. V.	+ ″	
	89 46 15	95 3 1	7	90 14 10	96 1 1	0	
	20		7	0	0	19	
	22		10	0	0	20	
	18		7	15	1	7	
	20		6	15	1	9	
	22		13	5	1	5	
	89 46 27	95 3 1	20	90 13 55	96 1 1	0	
	27		20	14 0	1	0	
	25		13	13 55	0	22	
	27		18	13 52	0	15	
	21		9	13 52	0	20	
	21		13	14 0	0	22	
Mean of the upper - - -	89 46 22,1	95 3 1	12	90 14 01,6	96 1 0	24,8	Means.
Ditto of the lower - - -	90 14 01,6	96 1 0	24,8				
Exceſs above 180°. - - -	23,7	2	10,4				
Error of the Line of Collimation.	— 11,85	— 1	5,2	To be ſubtracted.			

Observations at Queen Charlotte's Sound, in New Zealand, Continued

Computations of the Latitude of the Place, from the preceding Observations

1773	Latitude Interior Arch	Latitude Exterior Arch	Declination
	° ′ ″	° ′ ″	° ′ ″
	By Observations of the Sun		
☉ Nov 14	41 5 55¼	41 5 42	18 17 04½ N
☽ —— 15	41 6 0	41 5 57	18 32 33
☿ —— 17	41 5 37	41 5 29¼	19 2 30½
♃ —— 18	41 6 1½	41 5 58	19 16 59
	41 5 53½	41 5 46½	Means
	By Observations of α Andromedæ		
♂ Nov 16	41 5 30½	41 5 25¼	27 50 39 N
♄ —— 20	41 5 31¾	41 5 32½	
	41 5 31	41 5 29	Means

1773	Latitude Interior Arch	Latitude Exterior Arch	Declination
	° ′ ″	° ′ ″	° ′ ″
	By an Observation of Fomalhaut		
♂ Nov 9	41 5 42¾	41 5 27½	30 48 53½ N
	By an Observation of α Pegasi		
	41 5 48½	41 5 51½	
The preceding Stars all passed N of the Zenith			
The following of Achernar, were S of the Zenith			
☽ Nov 15	41 6 25	41 6 30	
	41 6 53	41 6 33¾	
	41 6 9½	41 5 50½	
	41 6 29	41 6 18	Mean by Achernar
	41 5 44	41 5 38½	Mean of N Stars
	41 6 6½	41 5 58¼	Mean of both
And	41 6 2½ is the Latitude South		

Observations for the Longitude of the Place

1773	Time by the Clock.	Apparent Time	Zenith Distance ☽'s U L	Distance ☉ and ☽'s nearest Limbs	Longitude East	Remarks, &c.
	H	H	° ′	°	° ″	
♄ Nov 6	9 27 28	18 44 33,4	58 24	99 28	174 2 51	Observed with a Quadrant of Mr Dollond's making, and 1 16″ must be subtracted from the distance for its error
	29 36		32	28		
	31 8		37	27		
	33 13		44¼	27		
	35 5		51¾	26¼		
	36 33		56¾	25½		
	9 42 22	18 58 32	59 19¼	99 22	174 54 45	Observed with a Quadrant of Mr Ramsden's making, and 2 00 must be added to the distance for its error
	43 43		24¾	22		
	45 19		31	21¾		
	47 0		38	21		
	48 48		44¾	20¼		
	50 16		53½	19½		

Obſervations at Queen Charlotte's Sound, in New Zealand, Continued.

Obſervations for the Longitude of the Place.

1773.	Time by the Clock.	Apparent Time.	Zenith Diſtance ☽'s U. L.	Diſtance ☉ and ☽'s neareſt Limbs.	Longitude Eaſt.	Remarks, &c.
	H ′ ″	H ′ ″	° ′	° ′	° ′ ″	
☽ Nov. 8.	10 12 30		50 21½	75 33¼		
	14 49		22½	32¼		
	16 23	19 22 52	23	33	174 20 45	Diſtance obſerved by Mr. Ramſden's Quadrant: Error 2′ 05″; to be added.
	19 52		25	31¼		
	21 13		26	31		
	22 47		27½	30½		
	10 40 59½		50 53	75 27		
	42 20		55¼	26¼		
	44 04		58¼	26		
	45 09	19 49 14	51 01	25¼	173 55 37½	The diſtances were obſerved with Mr. Dollond's Quadrant, and 1′ 17″ muſt be ſubtracted for its error.
	46 16		04	25¼		
	47 24		06½	24¾		
♃ —— 18.	18 43 49		24 15	51 4		
	45 32		11½	4¼		
	47 04	3 17 17,8	7	5	174 41 0	Diſtances with Dollond's Quadrant, and 1′ 9″ muſt be ſubtracted for its error.
	48 11		5¼	5¼		
	49 11		2¼	6		
	50 18		1	6¼		
	18 53 53		23 55	51 05½		
	56 46		51	06¼		
	58 02½	3 28 19.	49	6¾	174 25 7	The diſtance was obſerved with Ramſden's Quadrant, and 2′ 30″ muſt be added for its error.
	59 19		47¾	7		
	19 0 34		46¼	7½		
	01 48		46	7½		
♄ —— 20.	18 20 49		45 7¼	77 4¾		
	23 12		44 44¼	6		
	25 09	2 48 8,4	44 25	6¼	174 36 12	Diſtance by Dollond's Quadrant, and its error was 1′ 00″, to be ſubtracted.
	26 40		44 12¼	7		
	28 15		43 57¾	7¾		
	30 29		43 35¼	8½		
	18 55 45		39 45	77 14½		
	57 16		39 30½	15		
	58 50	3 21 57,4	39 18¾	15¼	174 18 21	Diſtance by Ramſden's Quadrant; and its error was 2′ 14″, to be added.
	19 0 16		39 05½	16		
	2 16		38 48¾	16½		
	3 38		38 37¼	17½		

Obfervations at Queen Charlotte's Sound, in New Zealand, Continued

Obfervations on the Tides

1773	Time by the Clock H ′	Apparent Time H	Height of the Water F I	Remarks
☽ Nov 15	15 01		3 8	
	15 16		3 11	
♂ — 16			8 6½	Low Water
	12 30		3 10	
	12 49		3 7	
	13 14		3 1	
	14 11½	22 46,1	2 8	High Water
	15 7		3 1	
☿ — 17	15 35		3 7	
	15 55		3 10	
			8 6	Low Water
			8 1½	Ditto.
	14 02		3 0	
	14 58½	23 29,0	2 6½	High Water
♃ — 18	15 55		3 0	
			8 0	Low Water
			7 10	Low Water
	13 37		4 0	
	13 59		3 10	
	14 27		3 7	
	14 52		3 4	
♀ — 19	15 43½	0 10,3	2 6	High Water
♀ Nov 19	16 40		3 4	
	17 2		3 7	
	17 27		3 10	
	17 45		4 0	
			7 6½	Low Water
			7 4	Ditto
	14 26		4 9	
	14 31		4 2	
	14 34		4 1	
♄ — 20	16 16½	0 39,4	3 1	High Water
	17 57		4 1	
	18 0½		4 2	
	18 08		4 3	
			7 2	Low Water
			7 2	Ditto
	15 35		4 4	
	15 39		4 3	
☉ — 21	15 47		4 2	
	17 11½	1 30,3		High Water
	18 39		4 2	
	18 43		4 3	
	18 46		4 4	

In thefe eight days, the time of high water advanced only 4 h 44 inftead of 6 h 40, which I conceive it ought to have done The obfervations were made by means of two pofts, divided into feet and inches, from their tops downwards; and their tops were placed truly level by the aftronomical quadrant.

Obſervations at Queen Charlotte's Sound, in New Zealand, Continued.

Computations of the going of the Clock.

1773.	Time by Clock of apparent Noon.	Sydcrial Time of apparent Noon.	Clock ſlow of Syderial Time.	Clock gains on Syderial Time.
	H ′ ″	H ′ ″	′ ″	″
♄ Nov. 6.	14 44 46,06	14 45 52,34	1 06,28	
♂ —— 9.	14 55 46,17	14 57 54,78	2 08,61	20,78
☿ —— 10.	14 59 28,63	15 01 57,49	2 28,86	20,25
♀ —— 12.	15 6 54,51	15 10 05,13	3 10,62	20,88
♄ —— 13.	15 10 38,71	15 14 10,38	3 31,67	21,05
☉ —— 14.	15 14 22,33	15 18 16,39	3 54,06	22,39
☽ —— 15.	15 18 08,75	15 22 23,25	4 14,50	20,44
♂ —— 16.	15 21 54,50	15 26 31,02	4 36,52	22,02
♃ —— 18.	15 29 31,52	15 34 49,05	5 17,53	20,51
♄ —— 20.	15 37 10,47	15 43 10,17	5 59,70	21,08
☽ —— 22.	15 44 51,38	15 51 34,60	6 43,22	21,76
			Mean is	21,116

The clock was fixed up as uſual, and the pendulum of the ſame length.

Computations of the going of Mr. Kendall's Watch.

1773.	Time by the the Clock of apparent Noon.	Time by Clock when the Watch was compared.	Time from Noon by the Clock.	Clock's gain on the Watch.	Time from Noon by the Watch.	Time by the Watch when compared.	Time of apparent Noon by the Watch.	Mean Time of apparent Noon.	Watch too ſlow for mean Time.	Watch gains on mean Time.
	H ′ ″	H ′ ″	′ ″	″	′ ″	H ′	H ′ ″	H ′ ″	H ′ ″	″
♄ Nov. 6.	14 44 46,06	14 51 0,25	6 14,19	0,90	6 13,29	12 36	12 29 46,71	23 43 51,40	11 14 04,69	7,79
♂ —— 9.	14 55 46,17	14 43 21,50	12 24,67	1,78	12 22,89	12 18	12 30 22,89	23 44 04,20	11 13 41,31	9,70
☿ —— 10.	14 59 28,63	15 11 51,75	12 23,12	1,77	12 21,35	12 43	11 30 38,65	23 44 10,26	11 13 31,61	7,20
♀ —— 12.	15 06 54,51	15 9 47,25	2 52,74	0,42	2 52,32	12 34	12 31 7,68	23 44 24,90	11 13 17,22	9,03
♄ —— 13.	15 10 38,71	15 23 15,25	12 36,54	1,80	12 34,74	12 41	12 31 25,26	23 44 33,45	11 13 8,19	8,27
☉ —— 14.	15 14 22,33	15 22 40,50	8 18,17	1,16	8 17,01	12 40	12 31 42,99	23 44 42,91	11 12 59,92	12,17
☽ —— 15.	15 18 08,75	15 25 04,25	6 55,50	0,98	6 54,52	12 39	12 32 5,48	23 44 53,23	11 12 47,75	8,47
♂ —— 16.	15 21 54,50	15 38 31,75	16 37,25	1,37	16 34,88	12 49	12 32 25,12	23 45 04,40	11 12 39,28	11,16
♃ —— 18.	15 29 31,52	15 38 20,50	8 48,98	1,25	8 47,73	12 42	12 33 12,27	23 45 29,22	11 12 16,95	9,89
♄ —— 20.	15 37 10,47	15 43 11,25	6 00,78	0,86	5 59,92	12 40	12 34 00,08	23 45 57,25	11 11 57,17	7,43
☽ —— 22.	15 44 51,38	15 44 05,25	0 46,13	0,11	0 46,02	12 34	12 34 46,02	23 46 28,33	11 11 42,31	
									Mean is	9,091

Obfervations for the Dip of the Magnetic Needle, made at Tolaga Bay, in New Zealand, by Mr Bayley

1773	Dip of the Needle's South End — Face of the Inftrument East		West		After changing the Poles — Face East		Face West		
	°	′	°	′	°	′	°	′	
☽ Nov 15	62	0	62	15	62	0	62	10	
	62	27	62	35	62	30	62	27	The latitude of Tolaga Bay Mr Bayley found to be 38° 21½ S and its longitude 178 33¾ E. The variation of the compafs was 13° 40 E
	61	55	63	0	62	55	63	0	
	62	10	62	45	62	16	62	40	
	62	35	63	20	62	10	61	55	
	63	0	62	27	61	55	62	0	
	62	47	62	45	62	27	62	30	
	62	24	62	0	63	0	62	15	
	61	50	62	15	62	40	62	20	
	62	16	62	10	62	16	62	45	
Means	62	20,4	62	33,2	62	24,9	62	24,2	
	Mean of the above four Means						62	25,7	

Obfervations by Mr Bayley, at Queen Charlotte's Sound, in New Zealand

1773	Equal Altitudes Times by the Clock C — Lower Wire ′ ″	Middle Wire H ′ ″	Upper Wire ′ ″	Zenith Diftance ° ′ ″	Time of apparent Noon by the Clock H ′ ″	Phenomena and Remarks
☽ Dec. 6	——	12 9 18	11 49	61 0 0		☉'s U L Easterly
	9 44	12 15½	——			☉'s L L
	——	12 18 15	20 34½	59 20 0		☉'s U L
	18 40¼	21 11	——			☉'s L L
♂ —— 7					16 53 39,6	
	28 47¼	21 26 18¼	——	59 20 0		☉'s L L Westerly
		21 29 12½	26 45			☉'s U L
	37 42¾	21 35 11½	——	61 0 0		☉'s L L
	——	21 38 9½	35 41			☉'s U L
	6 6	12 8 38	11 19	61 40 0		☉'s U L Easterly
	9 3½	11 34½	14 6½			☉'s L L
	43 29½	12 46 0½	48 29½	54 40 0		☉'s U L
	——	48 54½	51 25½			☉'s L L
	57 41	13 0 11½	2 41½	52 0 0		☉'s U L
	0 38	3 7	5 37¼			☉'s L L
☿ —— 8					16 56 53,68	

Obſervations by Mr. Bayley, at Queen Charlotte's Sound, in New Zealand.

1773.	Equal Altitudes. Times by Clock C. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Diſtance. ° ′ ″	Time of apparent Noon by the Clock. H ′ ″	Phenomena and Remarks.	
☿ Dec. 8.	53 16½	20 50 46½	48 17½	52 0 0		☉'s L. L.	Weſterly.
	56 11¼	53 42¼	51 11¾			☉'s U. L.	
	———	21 4 59	2 29½	54 40 0		☉'s L. L.	
	10 23½	21 7 54¼	5 24			☉'s U. L.	
	44 52	21 42 18¼	39 49:	61 40 0		☉'s L. L.	
	———	21 45 17½	42 46½			☉'s U. L.	
	12 37	12 15 8½	17 38½	61 0 0		☉'s U. L.	Eaſterly.
	———	12 18 4½	20 35¼			☉'s L. L.	
	———	13 40 30	43 02	45 0 0		☉'s U. L.	
	40 57½	13 43 28½	46 01¼			☉'s L. L.	
♃ —— 9.					17 0 08,77		
	19 26	20 16 53½	14 21	45 0 0		☉'s L. L.	Weſterly.
	———	20 19 52¼	17 20¾			☉'s U. L.	
	———	21 42 19½	39 50½	61 0 0		☉'s L. L.	
	47 45½	21 45 17¼	42 45½			☉'s U. L.	
	45 50	12 48 20¼	50 49	65 20 0		☉'s U. L.	Eaſterly.
	48 46½	12 51 16½	———			☉'s L. L.	
	36 22½	13 39 53½	42 24¼	45 40 0		☉'s U. L.	
	40 21:	13 42 51½	45 22½			☉'s L. L.	
♀ —— 10.					17 3 23,95		
	26 33½	20 24 2	21 32	45 40 0		☉'s L. L.	Weſterly.
	28 29¼	20 26 59½	24 28¾			☉'s U. L.	
	18 8	21 15 37½	———	55 20 0		☉'s L. L.	
	21 3¼	21 18 32½	16 2¼			☉'s U. L.	
	20 21½	12 22 53	25 24	60 40 0		☉'s U. L.	Eaſterly.
	23 18	12 25 49½	28 19½			☉'s L. L.	
	6 37½	13 9 7	11 37	52 0 0		☉'s U. L.	
	———	13 12 3½	14 31½			☉'s L. L.	
♄ —— 11.					17 6 40,90		
	———	21 1 23½	58 53½	52 0 0		☉'s L. L.	Weſterly.
	6 48½	21 4 19½	1 50			☉'s U. L.	
	50 8¼	21 47 36½	45 6	60 40 0		☉'s L. L.	
	53 4½	21 50 34¼	48 2½			☉'s U. L.	
	52 49:	11 55 21	57 55	66 20 0		☉'s U. L.	Eaſterly.
	55 46¾	11 58 21	———			☉'s L. L.	
	53 40½	12 56 11	58 41	55 0 0		☉'s U. L.	
	56 36½	12 59 7	1 37			☉'s L. L.	
☉ —— 12.					17 09 56,71		
	23 23	21 20 52½	18 23	55 0 0		☉'s L. L.	Weſterly.
	26 17¾:	21 23 47½	21 18¼			☉'s U. L.	
	24 11½	22 21 38	———	66 20 0		☉'s L. L.	
	27 9	22 24 37¼	22 5½			☉'s U. L.	

Obſervations by Mr Bayley, at Queen Chalotte's Sound, Continued

1773	Equal Altitudes Times by Clock C, Lower Wire ″	Middle Wire H ′ ″	Upper Wire ′ ″	Zenith Diſtance ° ′ ″	Time of apparent Noon by the Clock H ′ ″	Phenomena and Remarks
☉ Dec 12	50 25½	11 52 59	55 31	67 20 0		☉'s U L Eaſterly
	53 24	11 55 59	———			☉'s L L
	46 5	12 48 34	51 5½	57 0 0		☉'s U L
	49 0½	12 51 30¼	53 59½			☉'s L L
☽ —— 13					17 13 13,24	
	37 33	21 35 0	32 31	57 0 0		☉'s L L Weſterly
	40 27½	21 37 56½	35 28			☉'s U L
	33 6½	22 30 33	———	67 20 0		☉'s L L
	36 5½	22 33 32¼	31 0½			☉'s U L
♂ —— 14	14 43½	12 17 15½	———	64 0 0		☉'s U L Eaſterly
	17 42½	———	———			☉'s L L
	50 31	12 52 59½	55 31	57 20 0		☉'s U L
	53 25½	—— ——	———			☉'s L L
	27 46½	13 30 17	32 47¼	50 20 0		☉'s U L
	30 43¼	13 33 13½	35 43½			☉'s L L
☿ —— 15					17 19 50,31	
	9 1½	21 6 29	4 0½	50 20 0		☉'s L L Weſterly
	11 54½	21 9 25	6 54½			☉'s U L
	46 17	21 ———	———	57 20 0		☉'s L L
	49 13¼	21 46 43	44 13			☉'s U L
	22 4	22 ———	———	64 0 0		☉'s L L
	25 1½	22 22 29½	———			☉'s U L

Computations of the Rate of going of the Clock C

1773	Time of apparent Noon by the Clock H ′ ″	Syderial Time of apparent Noon H ′ ″	Clock too ſlow for Syderial Time ′ ″	Clock loſes on Syderial Time.
♂ Dec 7	16 53 39,6	16 56 07 70	2 28,10	1 8,92
☿ —— 8	16 56 53,68	17 0 30,70	3 37,02	1 8,41
♃ —— 9	17 0 08,77	17 4 54,20	4 45,43	1 9,12
♀ —— 10	17 3 23,97	17 9 18,52	5 54,55	1 7,75
♄ —— 11	17 6 40,90	17 13 43,20	7 02 30	1 9,00
☉ —— 12	17 9 56 71	17 18 8,01	8 11,30	1 8,86
☽ —— 13	17 13 13,24	17 22 33,40	9 20,16	1 7,02
☿ —— 15	17 19 50,31	17 31 24 51	11 34,20	
			Mean rate is	1 8,47

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Computations of the Rate which Mr. Arnold's Watch (No. 1.) went at.

1773.	Time by the Clock.	Time by the Watch.	Clock before the Watch.	Watch loses on the Clock.	Time between the Comparisons.	Watch loses on the Clock per Day.	Watch loses on Sydereal Time per Day.	Watch loses on Sydereal Time per Day.	Watch loses on mean Time per Day.
	H ′ ″	H ′ ″	H ′ ″	′ ″	H ′	′ ″	′ ″	′ ″	″
♂ Dec. 7.	17 3 8	8 25 0	8 38 08	3 30	23 58	3 30,29	1 8,92	4 39,21	42,71
☿ —— 8.	17 4 38	8 23 0	8 41 38	3 32	24 08	3 30,83	1 8,41	4 39,24	42,74
♃ —— 9.	17 16 10	8 31 0	8 45 10	3 30½	23 48	3 32,25	1 9,12	4 41,37	44,87
♀ —— 10.	17 7 40½	8 19 0	8 48 40½	3 30½	23 39	3 33,57	1 7,75	4 41,32	44,82
♄ —— 11.	16 50 11	7 58 0	8 52 11	3 46	25 15	3 35,07	1 9,0	4 44,07	47,57
☉ —— 12.	18 8 57	9 13 0	8 55 57	3 25	22 59	3 33,93	1 8,86	4 41,79	45,29
☽ —— 13.	17 11 22	8 12 0	8 59 22	3 30	23 19	3 36,0	1 7,02	4 43,02	46,52
♂ —— 14.	16 33 52	7 31 0	9 2 52	3 42	24 49	3 34,83	1 7,02	4 41,85	45,35
☿ —— 15.	17 26 34	8 20 0	9 6 34						
									44,984

Mr. Bayley farther computes, that the Watch was too slow for mean Time, at Queen Charlotte's Sound, on December the 15th, at noon, by 15 h. 42′ 17″,46.

Meridian Altitudes of the Sun and Stars for determining the Latitude.

1773.	Zenith Distance. Interior Arch.	Exterior Arch.		Exterior Arch reduced.	Latitude.	Phenomena.
	° ′ ″	G. S. V.	″	° ′ ″	° ′ ″	
♂ Dec. 7.	18 42 50	19 3 27	0	18 42 48,1	41 5 58,1	☉'s L. L.
	18 10 15	19 1 17	0	18 10 16,9		☉'s U. L.
♀ —— 10.	18 24 40	19 2 18	0	18 24 47,1	41 5 43,3	☉'s L. L.
	17 51 18	19 0 06	0	17 51 23,2		☉'s U. L.
♄ —— 11.	18 20 0				41 5 48,2	☉'s L. L.
	17 46 25	18 3 27	0	17 46 33,1		☉'s U. L.
	57 05 55	60 3 20	0	57 5 58,5	41 5 27,8	Aldebaran.
	32 36 08	34 3 3	0	32 36 0,3	41 5 33,1	Rigel.
	69 26 18	74 0 9	— 10	69 26 17,3	41 5 17,5	β Tauri.
	48 24 37	51 2 18	0	48 24 47,1	41 5 08,8	α Orionis.
☽ —— 13.	57 6 02	60 3 20	+ 9	57 6 7,5	41 5 35,3	Aldebaran.
				Latitude	41 5 34	South.

Obſervations by Mr Bayley, at Queen Charlotte's Sound, Continued

Obſervations for the Longitude of the Place

1773	Time by the Clock H ′ ″	Apparent Time. H ′ ″	Altit. of the ☉'s L L ° ″	Zenith Diſtance ☽'s U L ° ′ ″	Diſtance neareſt Limbs of ☉ and ☽ H ′	Barom Inches	Therm In Tent °	Therm Out °	Longitude Eaſt ° ′ ″
☽ Dec 6	12 40 45	19 53 33,6	34 27	55 4 36	94 53 35	30,32	53½	50	174 01 01½
	44 26		35 6	55 30 0	53 0				
	47 34		35 42	55 50 10	52 10				
	49 05		36 0	56 0 24	51 37				
	51 32		36 28	56 14 30	51 10				
	12 55 02	20 5 47,5	37 06	56 41 25	94 50 0	30,32	53½	50	174 25 0
	57 04		37 30	56 55 20	49 0				
	59 01		37 54	57 10 12	48 10				
	13 0 36		38 10	57 21 5	47 0				
	13 28 25	20 37 45,3	43 22	60 55 36	94 37 0	30,32	53½	50	174 12 34½
	31 15		43 52	61 18 50	35 55				
	33 13		44 17	61 34 50	35 45				
	14 13 39	21 23 9,3	51 39	67 29 0	94 19 40	30,32	56	51	174 14 34½
	16 29		52 10	67 55 10	18 15				
	19 15		52 42	68 20 53	17 10				
			+ 4		− 3 30	Errors of the Quadrants			
♂ — 7	11 7 22	18 17 12,7	16 37	44 15 10	83 8 35	30,30	52	54½	174 11 22½
	14 10		17 52	6 4	6 17				
	18 21		18 36	1 18	5 25				
	12 22 45	19 32 53,6	30 30	45 20 0	82 42 22	30,30	56	55	173 56 01½
	26 45		31 15	33 30	41 15				
	28 46		31 37	41 10	40 40				
	30 44		32 0	48 18	40 20				
	32 15		32 17	54 12	39 55	The errors of the Quadrants as above			
	33 52		32 36	46 0 30	39 10				
			Altit. of Regulus	Zenith Diſtance ☽'s L. L.	Diſtance ☽'s far L from Regulus				
☿ — 8	8 40 55	15 47 13,7	56 31	26 34	38 44 30	30,40	54	51½	174 16 26½
	8 46 56		56 02	27 37	48 0				
	8 50 57		55 51	28 19	49 40				
	8 53 37	15 58 18,0	55 42½	28 42	51 10	30,40	54	52	173 52 30
	8 57 12		55 31½	29 17	53 15				
	9 1 14		55 22	29 56	54 30				
			+ 4		− 6 27	Errors of the Quadrants			

Observations by Mr. Bayley, at Queen Charlotte's Sound, Continued.

Observations for the Longitude of the Place.

1773.	Time by the Clock. H ′ ″	Apparent Time. H ′ ″	Altit. of the ⊙'s L. L. ° ′	Zenith Distance ☽'s U.L. ° ′ ″	Distance nearest Limbs of ⊙ and ☽. ° ′ ″	Barom. Inches.	Therm. In Tent. °	Therm. Out. °	Longitude East. ° ′ ″
☿ Dec. 8.	10 59 26		14 40	43 37 22	70 27 25				
	11 2 15		15 10	43 21 36	26 15				
	4 28		15 35	43 9 0	26 0				
	6 58		16 0	42 56 25	25 50				
	8 46	18 09 57	16 20	42 46 36	25 10	30,37	54	52	174 9 22½
	10 43		16 39	42 36 42	25 0				
	12 23		16 58	42 28 41	24 20				
	13 58		17 16	42 21 0	23 40				
	15 45		17 34	42 12 20	22 30				
			+ 4	☽'s L. L.	— 3 30	Errors of the Quadrants.			
♀ —— 10.	10 58 19		13 25	37 21	43 49 36				
	11 1 36	17 55 14,2	14 0	37 54	49 15	30,40	56	54	174 11 3
	11 3 21		14 20	38 12	48 30	Errors of the Quadrants as above.			
♂ —— 14.	3 19 50	10 1 56,0	♃'s first satellite emerged: the air very clear, and ♃'s belts exceedingly distinct: Magnifying power 150.						174 15 30

Observations on the Tides.

1773.	Apparent Time. H ′	Time by the Clock. H ′	Height of the Water. F. I.	Remarks.	1773.	Apparent Time. H ′	Time by the Clock. H ′	Height of the Water. F. I.	Remarks.
☽ Dec. 13.		13 16	1 6		☽ Dec. 13.		15 35	1 6	
		13 20	1 7		♂ —— 14.		19 0	0 8¼	
		13 25	1 8				19 12	0 7	
		13 30	1 9			2 18	19 34	0 6½	Low Water.
		13 38	1 10				19 50	0 7	
		13 42	1 10½				20 13	0 8¼	
		13 47	1 11				14 0	1 9	
	21 7	14 23	1 11¾	High Water.			14 5	1 10	
		14 55	1 11				14 15	2 0½	
		15 1	1 10½				14 25	2 02½	
		5	1 10				14 30	2 03½	
		15	1 9				14 45	2 04½	
		23	1 8			21 51	15 10	2 05½	High Water.
		30	1 7				15 40	2 04½	

Obſervations by Mr Bayley, at Queen Charlotte's Sound, Continued

Obſervations on the Tides

1773	Apparent Time H	Time by the Clock H	Height of the Water F I	Remarks.
♂ Dec 14		15 47	2 3½	
		15 53	2 2½	
		16 03	2 0½	
		16 15	1 10	
		16 22	1 9	
☿ —— 15		19 50	0 9	
		19 56	0 8½	
	3 5	20 25	0 7	Low Water
		20 55	0 8½	
		20 58	0 9	
		15 0	1 10½	
		15 6	1 11½	
		15 14	2 0½	

1773	Apparent Time. H	Time by the Clock H ′	Height of the Water F I	Remarks
☿ Dec 15		15 25	2 2	
		15 41	2 3	
	22 39	16 1	2 4¼	High Water
		16 25	2 3	
		16 35	2 2	
		16 45	2 0¼	
		16 51	1 11½	
		17 5	1 10¼	
♃ —— 16		20 40	0 8	
		20 47	0 7	
	3 54	21 17	0 6	Low Water
		1 46	0 7	
		1 55	0 8	

In the foregoing Obſervations, Mr Bayley uſed two poſts, as I did but the o, or beginning of the diviſions on that he found the high water by, was 4 feet and ¾ of an inch higher than o on that whereby low water was eſtimated conſequently, ſo much muſt be added to the difference of the heights of the water, as put down at theſe two times

Obfervations by Mr. Bayley, at the Cape of Good Hope.

1774.	Equal Altitudes. Times by the Clock C. Lower Wire.	Middle Wire	Upper Wire.	Zenith Diftances.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″	
♂ March 22.	21 40	20 24 27	26 34	62 20 0		☉'s U. L. Eafterly.
	24 29	20 26 56½	29 24			☉'s L. L.
	33 8	20 34 37¼	37 5½	60 20 0		☉'s U. L.
	35 0½	20 37 29½	——			☉'s L. L.
☿ —— 23.					0 6 17,66	
	37 12	3 34 43½	——	60 20 0		☉'s L. L. Wefterly.
	40 03¾	3 37 35¼	35 5½			☉'s U. L.
	47 41¼	3 45 14	42 46½	62 20 0		☉'s L. L.
	50 31	3 48 4	45 37½			☉'s U. L.
	45 46½	19 48 7¼	50 29¼	70 0 0		☉'s U. L. Eafterly.
	48 27½	19 50 51¼	53 12½			☉'s L. L.
	——	20 6 46	9 8	66 20 0		☉'s U. L.
	7 4¾	20 9 30½	11 52½			☉'s L. L.
	18 04	20 20 29	22 55	63 40 0		☉'s U. L.
	20 50½	20 23 19½	25 44			☉'s L. L.
♃ —— 24.					0 8 18,70	
	55 51½	3 52 55¼	50 30	63 40 0		☉'s L. L. Wefterly.
	58 9¼	3 55 44	53 18½			☉'s U. L.
	9 8	4 6 43	4 18½	66 20 0		☉'s L. L.
	——	4 9 29¾	7 5¼			☉'s U. L.
	27 41½	4 25 19½	22 58¼	70 0 0		☉'s L. L.
	30 24½	4 28 3¼	25 42¼			☉'s U. L.
♀ —— 25.	——	19 45 19½	47 40½	71 50 0		☉'s U. L. Eafterly.
	45 41¼:	19 48 3½	——			☉'s L. L.
	8 43	20 11 8	——	66 45 0		☉'s U. L.
	——	20 13 55½	——			☉'s L. L.
♄ —— 26.					0 12 21,62	
	——	4 10 23	——	66 45 0		☉'s L. L. Wefterly.
	15 34½	4 13 9¾	——			☉'s U. L.
	38 36	4 36 16	——	71 50 0		☉'s L. L.
	——	4 38 57	36 38			☉'s U. L.
☉ —— 27.	20 37	21 23 20	26 05	54 40 0		☉'s U. L. Eafterly.
	23 44½	21 26 30	29 14½			☉'s L. L.
	——	21 34 18	37 06	52 48 0		☉'s U. L.
	34 43½	21 37 34½	——			☉'s L. L.
☽ —— 28.					0 16 25,08	
	——	2 54 53	——	52 48 0		☉'s L. L. Wefterly.
	——	——	55 20½			☉'s U. L.
	——	3 ——	3 14	54 40 0		☉'s L. L.
	——	3 9 6:	——			☉'s U. L. Cloudy.

Observations by Mr Bayley, at the Cape of Good Hope, Continued

1774.	Equal Altitudes Times by the Clock C: Lower Wire ′ ″	Equal Altitudes Times by the Clock C: Middle Wire H ′ ″	Equal Altitudes Times by the Clock C: Upper Wire ′ ″	Zenith Distance. ° ′ ″	Time of apparent Noon by the Clock H ′ ″	Phenomena and Remarks
♂ March 29	Removed the Tent, Clock, &c. into another part of the garden, because where it had stood hitherto, the wind blew a great deal of sand and dust into the Observatory, which hurt the instruments but in doing of this, the length of the pendulum was not altered but the pendulum was secured as it was The Clock stood before facing the north; it now faced the south, so that in both cases the pendulum vibrated E and W or parallel to the Table Mountain nearly					
	26 45	7 30 4½	33 24½	58 30 0	9 56 40,12	Regulus East
	26 35¾	12 23 16½	19 55			Regulus West
	——	20 24 16½	26 42¾	69 40 0		☉ s U L } Easterly
	24 39	20 ——	29 28			☉ s L L
	37 21½	20 29 47¾	42 1	66 40 0		☉ s U L
	40 10	20 42 37	45 5½			☉ s L L
	47 50	20 50 19	5 48¾	64 40 0		☉ s U L
	50 40½	20 53 11	55 40			☉ s L L
☿ —— 30					0 35 32,56	
	20 0	4 17 31	14 59½	64 40 0		☉'s L L } Westerly
	22 50	4 20 21½	17 53½			☉ s U L
	30 30½	4 28 1½	25 36	66 40 0		☉ s L L
	33 19¾	4 30 51¼	28 24			☉'s U L
	46 2¾	4 ——	41 10¼	69 40 0		☉ s L L
	——	4 46 22	43 57½			☉ s U L
	56 48	20 59 17½	1 48	63 40 0		☉ s U L } Easterly
	59 40	21 2 11½	4 43			☉'s L L
	7 38	21 10 16	12 40	61 40 0		☉ s U L
	10 29½	21 13 3½	15 36			☉ s L L
♃ —— 31					0 37 52,57	
	4 52	4 2 18	59 44	61 40 0		☉'s L L } Westerly
	7 48½	4 5 15¾	2 41¾			☉'s U L
	15 41	4 13 9	10 37	63 40 0		☉'s L L
	18 32	4 16 3	13 32			☉ s U L
	23 49	20 26 13	28 38	70 40 0		☉ s U L } Easterly
	26 35	20 29 0	31 25½			☉'s L L
	35 51	20 38 20	40 44	68 20 0		☉'s U L
	38 38½	20 41 06	43 32			☉'s L L
♀ April 1					0 40 10,64	
	41 17	4 38 49	36 22¾	68 20 0		☉ s L L } Westerly
	——	4 41 39	39 12½			☉ s U L
	53 11	4 50 56	48 29¾	70 40 0		☉ s L L
	56 7	4 53 42¾	51 17			☉'s U L
☉ —— 3	36 13½	20 38 39½	41 17¾	70 20 0		☉'s U L } Easterly
	39 0½	20 41 2 ½	43 5¾			☉ s L L
	——	20 50 54	53 22¼	68 0 0		☉ s U L
	51 14½	20 53 44	——			☉'s L L

Obfervations by Mr. Bayley, at the Cape of Good Hope, Continued.

1773.	Equal Altitudes. Times by the Clock C. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Diftance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″	
☉ April 3.		21 59 52	2 43	55 40 0		☉'s U. L. Eafterly.
	0 18¼	22 3 9	——			☉'s L. L.
☽ —— 4.					0 47 12,0	
	33 42½	3 30 52	——	55 40 0		☉'s L. L. Wefterly.
		3 34 8½	31 17½			☉'s U. L.
	42 43½	4 40 13½	——	68 0 0		☉'s L. L.
		4 43 5½	40 36¼			☉'s U. L.
	54 55½	4 52 29¼	50 02	70 20 0		☉'s L. L.
	57 45	4 55 17½	52 51½			☉'s U. L.
	39 51	20 42 15¾	44 43½	70 20 0		☉'s U. L. Eafterly.
	42 37½	20 45 6	——			☉'s L. L.
	52 3½	20 54 33	57 02	68 0 0		☉'s U. L.
	54 54½	20 57 24½	59 54			☉'s L. L.
	8 05	21 10 38¼	13 11½	65 0 0		☉'s U. L.
	11 01½	21 13 34	——			☉'s L. L.
♂ —— 5.					0 49 33,30	
	27 41½	4 25 09½	——	65 0 0		☉'s L. L. Wefterly.
	30 35½	4 28 4	25 31			☉'s U. L.
	43 46½	4 41 17½	38 46½	68 0 0		☉'s L. L.
	46 36¼	4 44 7½	41 38¼			☉'s U. L.
	56 3¼	4 53 36	——	70 20 0		☉'s L. L.
	58 49½	4 56 24½	53 57½			☉'s U. L.
	43 25¼	20 45 52¼	48 21	70 20 0		☉'s U. L. Eafterly.
	46 14	20 48 42¼	——			☉'s L. L.
	1 03	21 3 31½	6 2½	67 0 0		☉'s U. L.
	3 53½	21 6 25	8 57			☉'s L. L.
☿ —— 6.					0 51 54,655	
	39 31	4 36 59½	34 28½	67 0 0		☉'s L. L. Wefterly.
	42 23½	4 39 52¼	37 22½			☉'s U. L.
	57 9½	4 54 41½	——	70 20 0		☉'s L. L.
	59 58¼	4 57 31½	55 04			☉'s U. L.
♄ —— 9.	45 38	20 48 5	50 33¼:	72 40 0		☉'s U. L. Eafterly.
	48 25½	20 50 54½	53 22½			☉'s L. L.
	6 49	21 9 20½	11 52	68 40 0		☉'s U. L.
	9 42¼	21 12 15¼	14 47			☉'s L. L.
	17 10¼	21 19 44½	22 19½	66 45 0		☉'s U. L.
	20 06½	21 22 41	25 16			☉'s L. L.
☉ —— 10.					1 1 24,12	
	42 16	4 39 41½	37 6½	66 45 0		☉'s L. L. Wefterly.
	45 13½	4 42 39½	40 04¼			☉'s U. L.

Obſervations by Mr Bayley, at the Cape of Good Hope, Continued

1773	Equal Altitudes Times by Clock C: Lower Wire	Middle Wire	Upper Wire	Zenith Diſtance	Time of apparent Noon by the Clock	Phenomena and Remarks	
		H ″	″	° ′ ″	H ′		
☉ April 10	52 41	4 50 8½	47 36	68 40 0		☉'s L L	Weſterly
	55 33¼	4 53 2½	50 31			☉'s U L	
	13 55½	5 11 29	9 0			☉'s L L	
	16 44½	5 14 17¾	11 49¾	72 40 0		☉'s U L	

*** It is manifeſt, at firſt ſight, that the clock went conſiderably faſter after it was taken down than it did before Mr Bayley remarks, that he is abſolutely certain that no alteration happened in the length of the pendulum, but does not attempt to aſſign any other cauſe, which indeed does not ſeem eaſy to be done When it was firſt ſet up, the pendulum vibrated 1° 44 each way from the perpendicular, or point of reſt, and increaſed its vibrations regularly, until it was removed, when its vibrations were 1° 48 each way After it was removed, the vibrations were from 1° 46 to 1° 47 each way

Computations of the going of Clock C

1774	Time of apparent Noon by the Clock	Syderial Time of apparent Noon	Clock ſlow of Syderial Time	Clock loſes on Syderial Time
	H ′	H ′ ″	″	′
☿ March 23	0 6 17 66	0 10 36 5	4 18 84	
♃ —— 24	0 8 18 70	0 14 14 2	5 55 50	1 36 66
♄ —— 26	0 12 21 62	0 21 29 82	9 08 20	1 36 35
☽ —— 28	0 16 25 08	0 28 45 2	12 20,12	1 35 96
				1 36 327
	Removed the Obſervatory Clock &c.			
☿ —— 30	0 35 32 56	0 36 00,8	0 28 24	
♃ —— 31	0 37 52 57	0 39 38 6	1 46 03	1 17 79
♀ April 1	0 40 10,64	0 43 16 54	3 05 90	1 19 87
☽ —— 4	0 47 12 00	0 54 11,8	6 59 80	1 17 97
♂ —— 5	0 49 33 30	0 57 50 5	8 17 20	1 17 40
☿ —— 6	0 51 54 66	1 1 29 3	9 34,64	1 17 44
☉ —— 10	1 1 24 12	1 16 07,1	14 42,98	1 17 08
				1 17 925

Obſervations for the Variation

1774	Zenith Diſtance ☉'s U L	Azimuth of the ☉'s Center	Variation Weſt	
	° ′ ″			
♃ April 7	74 0 5	S 87 37½ E	21 59 10	
	73 0 40	88 47½		
	72 15 32	S 89 30 E	21 30 00	
	71 46 27	90 0		
	71 13 10	91 0		
♀ —— 8	76 29 42	S 86 42½ E	21 27,46	
	75 10 23	88 12½		
	73 16 20	89 0		
	71 55 12	N 46 35 W	21 25 50	
	72 43 31	47 17½		
	73 13 12	48 30		
		The mean is	21 35 1	Weſt

Obfervations by Mr. Bayley, at the Cape of Good Hope, Continued.

Computations of the going of Mr. Arnold's Watch (No. 1).

1774.	Time of Comparifon by the Clock. H ′ ″	Time of Compa-rifon by Watch. H ′	Watch flower than the Clock. H ′ ″	Watch lofes on the Clock. ′ ″	Interval between the Compa-rifons. ′ ″	Watch lofes on the Clock in 24 hours. ′ ″	Clock lofes on Syderial Time. ′ ″	Watch lofes on Syderial Time. ′ ″	Watch lofes on mean Time. ′ ″
☿ March 23.	0 20 1	17 35	6 45 01	3 24	24 20	3 21,20	1 36,66	4 57,86	1 01,36
♃ —— 24.	0 43 25	17 55	6 48 25	3 19	23 40	3 21,80	1 36,35	4 58,15	1 01,65
♀ —— 25.	0 26 44	17 35	6 51 44	3 21	23 39	3 23,94	1 36,35	5 00,29	1 03,79
♄ —— 26.	0 9 5	17 14	6 55 5	3 20½	23 51	3 21,76	1 35,96	4 57,72	1 01,22
☉ —— 27.	0 3 25½	17 05	6 58 25½	3 25	24 09	3 23,74	1 35,96	4 59,70	1 03,20
☽ —— 28.	0 15 50½	17 14	7 1 50½	Clock removed					
♂ —— 29.	0 46 05¼	17 26	7 20 5¼	3 41¾	23 53	3 42,83	1 17,79	5 00,62	1 04,12
☿ —— 30.	0 42 47	17 19	7 23 47	3 42½	24 14	3 40,34	1 17,79	4 58,13	1 01,63
♃ —— 31.	1 0 29½	17 33	7 27 29½	3 39¼	23 52	3 40,49	1 19,87	5 00,36	1 03,86
♀ April 1.	0 56 8¼	17 25	7 31 8¼	3 36¼	23 27	3 41,16	1 17,97	4 59,13	1 02,63
♄ —— 2.	0 26 45	16 52	7 34 45	3 46	24 24	3 42,28	1 17,97	5 00,25	1 03,75
☉ —— 3.	0 54 31	17 16	7 38 31	3 49	24 33	3 44,09	1 17,97	5 02,06	1 05,56
☽ —— 4.	1 31 20	17 49	7 42 20	3 40½	23 41	3 43,44	1 17,40	5 00,84	1 04,34
♂ —— 5.	1 16 0½	17 30	7 46 0½	3 44¼	23 55	3 45,01	1 17,44	5 02,46	1 05,96
☿ —— 6.	1 14 44¾	17 25	7 49 44¾	3 42¼	23 40	3 45,34	1 17,08	5 02,42	1 05,92
♃ —— 7.	0 58 27	17 5	7 53 27	3 40	23 30	3 44,44	1 17,08	5 01,52	1 05,02
♀ —— 8.	0 32 7	16 35	7 57 7	3 52	24 45	3 45,23	1 17,08	5 02,31	1 05,81
♄ —— 9.	1 20 59	17 20	8 0 59	3 38	23 23	3 43,53	1 17,08	5 00,61	1 04,11
☉ —— 10.	0 47 37	16 43	8 4 37						
						Mean rate of the Watch			1 3,76

Meridian Zenith Diftances of the Sun and Stars for the Latitude of the Place.

1774.	Zenith Diftances. Interior Arch. ° ′ ″	Zenith Diftances. Exterior Arch. G. S. V.	Exterior Arch. +″	Exterior Arch reduced. ° ′ ″	Barom.	Therm.	Latitude. ° ′ ″	Phenomena.
♀ March 25.	36 6 40	——	——	——	30,00	72	33 54 52½	☉'s L. L.
	35 34 20	37 3 24	25	35 34 24				☉'s U. L.
♂ —— 29.	37 40 30	——		——	30,15	66	33 54 29	☉'s U. L.
	37 8 0	39 2 14	0	37 8 1½				☉'s L. L.
☿ —— 30.	23 56 0	25 2 3	19	23 56 0	29,97	60	33 55 2½	Spica ♍.
♀ April 1.	27 54 23	29 3 2	13	21 54 42	30,01	57½	33 55 55½	α Crucis
	24 30 42	26 0 19	0	24 30 51	30,01	57½	33 55 57½	β Crucis
☉ —— 3.	39 36 15	——	——	——	30,08	66	33 55 14	☉'s U. L.
	39 4 0	41 2 21	18	39 3 54				☉'s L. L.

Observations by Mr Bayley, at the Cape of Good Hope, Continued

Meridian Zenith Distances of the Sun and Stars for the Latitude of the Place

1774	Zenith Distances Interior Arch ° ′ ″	Exterior Arch G S V	+	Exterior Arch reduced ° ′ ″	Barom	Therm	Latitude	Phenomena
☽ April 4	46 57 47	50 0 12	0	46 57 46	30,05	59	33 55 11	Regulus
♂ —— 5	40 22 07	——		——	} 30,10	69	33 55 23	☉'s L L
	39 49 38	42 1 30	0	39 47 45				☉'s U L
☿ —— 6	39 41 26	42 1 11	9	39 41 32	30 00	65	33 55 06	Procyon
♃ —— 7	41 7 0	——	——	——	} 30,03	72	33 55 08	☉'s L L
	40 34 40	43 1 4	12	40 34 46				☉'s U L
					Mean		33 55 14	South

But if the northern and southern stars be taken separately, and a mean of the two be then taken the latitude will be 33° 55′ 30″ S. W. W.

Observations for the Dip of the Needle's South End

1774	Plane of the Instrument East °	′	West °	′	Plane of the Instrument East °	′	West °	′	Plane of the Instrument East °	′	West °	′	Plane of the Instrument East °	′	West °	′
	45	32	45	45	45	10	45	18	45	30	45	55	45	29	45	17
	45	0	45	0	45	29	46	0	45	54	45	45	45	40	45	48
	45	15	45	28	45	27	45	51	46	0	45	51	45	45	45	50
	44	56	46	0	45	42	46	04	45	45	45	49	46	05	46	15
	45	15	46	05	45	10	45	40	46	10	46	10	46	0	45	29
	45	05	45	27	44	56	45	39	45	50	46	02	45	42	46	0
	45	37	45	42	45	17	45	49	45	48	45	54				
	45	30	45	40	45	20	46	15	45	30	45	29				
	44	58	46	4	45	14	46	0	45	50	45	45				
	45	30	46	0	Changed the Poles				45	26	45	55				
	45	35	45	54	46	0	45	45	45	54	46	0				
	44	47	46	0	45	34	45	45	45	37	45	50				

Before the Poles changed	°	′	″
Face E	45	16	26
Ditto W	45	48	21
After changing the Poles			
Face E	45	31	27
Face W	45	51	46
Mean Dip	45	37	04

Observations by Mr. Bayley, at the Cape of Good Hope, Continued.

Lunar Observations for the Longitude.

1774.	Time by the Clock. H ' "	Apparent Time. H ' "	Zenith Distance ☽'s L.L. ° ' "	Distance ☽ from ☉ or *. ° ' "	Barom.	Therm. In Tent. °	Therm. Out. °	Longitude East. ° ' "	
♂ March 29.	12 35 54		34 16 10	69 23 40					
	40 34		33 31 50	25 0					
	44 3	12 11 16	33 0 27	25 30	30,10	59½	57	18 17 0	☽ and Regulus.
	47 31		32 29 7	26 42					
	51 40		31 52 40	27 45					
	54 22		31 30 0	29 45					
				— 6 30	Errors of the Quadrant.				
	13 0 46		30 36 0	31 45 10					
	4 8		30 8 30	43 15					
	6 47		29 48 20	41 45					
	9 11	12 33 46	29 30 0	41 05	30,10	59½	57	18 24 25	☽ and Antares.
	12 40		29 3 44	40 10					
	15 47		28 41 22	39 0					
				— 6 30	Errors of the Quadrant.				
			☽'s U.L.						
♀ April 1.	21 16 19		52 52 38	108 39 30					
	20 01		53 36 42	37 40					
	22 33	20 41 18	54 7 30	36 47	30,02	68	68	18 29 15	☉ and ☽.
	24 51		54 35 27	35 30					
	27 18		55 04 40	34 37					
	29 55		55 36 4	33 10					
	21 32 37		56 9 50	108 32 12					
	35 16		56 40 0	30 50					
	37 36		57 9 42	30 0					
	39 30	20 56 19	57 31 15	29 30	30,02	68	68	18 33 22	☽ and ☉.
	41 41		57 57 27	28 10					
	44 31		58 31 18	26 47					
				— 4 10	Errors of the Quadrant.				
♄ —— 2.	21 36 37		44 42 33	95 10 0					
	39 37		45 18 20	8 10					
	41 49	20 57 2	45 44 22	6 30	30,06	66½	67	18 21 30	☉ and ☽.
	43 52		46 9 0	6 0					
	46 5		46 35 47	5 0					
				— 4 10	Errors of the Quadrant.				

Obſervations by Mr Bayley, at the Cape of Good Hope, Continued

Lunar Obſervations for the Longitude

1774	Time by the Clock	Apparent Time	Zenith Diſtance ☽'s U L	Diſtance of the ☉ and ☽'s Limbs	Barom	Therm In Tent	Out	Longitude Eaſt	
	H ′ ″	H ′ ″	° ′ ″	° ′				° ′ ″	
♄ April 2	21 48 10		47 0 37	95 4 30					
	49 58	21 06 16¼	47 22 0	3 20	30,06	66½	67	18 13 39	☉ and ☽
	51 34		47 41 25	3 0					
	53 42		48 7 0	1 40					
				— 4 10	Error of the Quadrant.				
☽ — 4	21 49 57		27 17 42	68 49 50					
	53 02		27 48 0	49 4					
	55 33	21 7 30¼	28 12 10	47 30	30,0	61	66	18 18 0	☉ and ☽
	58 08		28 37 37	47 0					
	22 0 48		29 3 15	46 28					
	3 10		29 28 20	45 47					
	22 5 20		29 50 30	44 40					
	7 20		30 10 43	44 0					
	9 33	21 21 34¼	30 33 25	43 28	30,0	61	66	18 24 10	☉ and ☽
	11 55		30 58 17	42 20					
	14 16		31 3 27	41 27					
	16 46		31 49 30	41 0					

Obſervations on the Tides

1774.	Height of the Water	Time by the Clock	Apparent Time	Remarks
	F I	H ′	H	
♄ April 9	2 4	20 20		
♄	2 3	20 25		
	2 2	20 35		
	2 1½	20 40		
	2 1½	20 50		
	2 2½	21 0		
	2 1½	21 10		
	2 0½	21 20		
	2 0½	21 25	20 24,0	Low Water
	2 0½	21 30		
	2 0½	21 35		

1774	Height of the Water	Time by the Clock	Apparent Time	Remarks
	F I	H ′	H	
♄ April 9	2 1½	21 40		
	2 2½	21 45		
	2 3	21 50		
	2 4	21 55		
☉ — 10	1 4	3 1		
	1 4½	3 5		
	1 5	3 10		
	1 5	3 15		
	1 5	3 20		
	1 5½	3 25		
	1 5½	3 30	2 26,0	High Water

Obſervations by Mr. Bayley, at the Cape of Good Hope, Continued.

Obſervations on the Tides.

1774.	Height of the Water.		Time by the Clock.		Appa-rent Time.	Remarks.	1774.	Height of the Water.		Time by the Clock.		Appa-rent Time.	Remarks.
	F	I.	H	′	H ′			F.	I.	H	′	H ′	
☉ April 10.	1	5¼	3	35			☉ April 10.	1	4	3	55		
	1	5	3	40				1	3½	4	0		
	1	4¾	3	45				1	2½	4	5		
	1	4½	3	50				1	2	4	10		

The above Obſervations were made in the ſame manner as thoſe which Mr. Bayley made at New Zealand and Otaheite; but it is to be noted, that the o, or beginning of the diviſions of his inſtrument, was placed five feet ſeven inches higher at the time of high water, than it was at low; from which quantity, if ſeven inches, the difference of the heights of high and low water, by the inſtrument, be ſubtracted, there will remain five feet for the quantity which the tide flowed on this day.

Obſervations made on the Iſland Ohitahoo, one of the Marqueſas.

Obſervations for the Latitude.

1774.	°	′	
♄ April 9.	35	18	Supplement to the double altitude of the ☉'s L. L. Error of the Quadrant, 1′¾ to be added.
☉ —— 10.	36	3	Ditto. Error of the Quadrant, 1′ 50″ to be added.

The firſt of theſe Obſervations gives 9° 55′¼ South for the Latitude; and the latter 9° 55′ ¾. They were taken from a quickſilver horizon with a Hadley's Sextant, and by the back Obſervation.

Obſervations made on the Iſland Ohitahoo, one of the Marqueſas, Continued

Obſervations for the Dip of the Magnetic Needle's South End

1774	Face of the Inſtrument. East.		Face of the Inſtrument. Weſt		Face of the Inſtrument East		Face of the Inſtrument Weſt		Face of the Inſtrument East		Face of the Inſtrument Weſt	
	°	′	°		°		°				°	
	19	30	19	15	18	30	19	20	11	30	11	20
	19	45	18	13	17	50	19	30	11	40	11	3[illegible]
	17	30	17	10	15	50	19	40				
	18	0	17	45	15	40	19	0				
	18	05	18	05	16	0	19	0				
	18	10	18	15	15	50	19	05				

The above Obſervations were made on three different days, the guard not ſtaying long enough on ſhore to permit me to take more at one time, nor even to balance the Needle with more accuracy I imagined that I had changed the Poles of the Needle between every day's Obſervations; but the near agreement which is between the firſt and ſecond and the great diſagreement between theſe and the Obſervations of the third day, incline me to believe that I made ſome miſtake, and did not actually change them the firſt time

Obſervations on the Tides

The high ſurf and ſmall time that I had an opportunity of being on ſhore, rendered it impoſſible for me to make either very accurate or very regular Obſervations of this kind, but I gathered, in the beſt manner I could that it was high water on ♀ April 8, 1774, about one o clock in the afternoon, and that it had fallen about 3½ feet at ſeven o clock, when I went on board, and I believe it was near, if not quite, low water I got no Obſervations on the 9th; but on the 10th it was low water about nine in the morning, and and high water about three in the afternoon, certainly not ſooner; and the water flowed nearly four feet It was low water on the morning the 11th, about 10 o clock, and the water ebbed out, from the laſt night's tide, about four feet It will readily be underſtood, that too much ſtreſs muſt not be laid on theſe Obſervations when I declare that the ſurf generally broke on the ſhore as high as myſelf

I had no Obſervations for determining the Longitude of this place while here, except by the watch; but by the mean of a great many taken, ſome before we arrived, and others after we left the place, and reduced very carefully by the watch, it appeared to be 220° 51 ½ East

Obſervations made on Point Venus, in Otaheite.

1774.	Equal Altitudes. Times by the Clock B. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Diſtance.	Time of apparent Noon by the Clock.	Phenomena and Remarks.	
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″		
♀ April 22.	50 31 :	21 52 27		72 0 0		☉'s U. L.	Eaſterly.
	52 53¼	54 50¼	56 46			☉'s L. L.	
	59 26	0 1 47	4 11	45 0 0		☉'s U. L.	
	2 20	4 45	7 7			☉'s L. L.	
♄ —— 23.					2 19 43,89		
	36 54	4 34 31	32 10	45 0 0		☉'s L. L.	Weſterly.
	39 48	37 26	35 06¼			☉'s U. L.	
	46 22	6 44 24	42 27¼	72 0 0		☉'s L. L.	
	48 45	46 48	44 51			☉'s U. L.	
☽ —— 25.	33 29	23 35 39	37 52	52 0 0		☉'s U. L.	Eaſterly.
	36 07¼	38 24	40 35			☉'s L. L.	
	45 20	23 47 35	49 49¼	49 40 0		☉'s U. L.	
	48 05	50 21	52 36			☉'s L. L.	
♂ —— 26.					2 26 55,03		
	5 32	5 3 16	0 59¼	49 40 0		☉'s L. L.	Weſterly.
	8 19	6 04	3 48¼			☉'s U. L.	
	17 24¼	5 15 11¼	13 0¼	52 0 0		☉'s L. L.	
	20 09	17 55¼	15 44¼			☉'s U. L.	
	8 28¼	22 10 27¼	12 26½	70 40 0		☉'s U. L.	Eaſterly.
	10 54¼	12 53¼	14 52			☉'s L. L.	
	41 52	23 44 6½	46 20¼	51 0 0		☉'s U. L.	
	44 37	46 51¼	49 7			☉'s L. L.	
☿ —— 27.					2 29 19,91		
	13 49	5 11 34¼		51 0 0		☉'s L. L.	Weſterly.
	16 33¼	14 20	12 6½			☉'s U. L.	
	47 32¼	6 45 34	43 37	70 40 0		☉'s L. L.	
		47 59	46 03			☉'s U. L.	
♃ —— 28.	25 01	23 27 10¼	29 19	55 40 0		☉'s U. L.	Eaſterly.
	27 40	29 50	31 59½			☉'s L. L.	
♀ —— 29.					2 34 03,57		
	40 14	5 38 03	35 53	55 40 0		☉'s L. L.	Weſterly.
	42 52	40 46	38 36			☉'s U. L.	
	46 38	22 48 42½	50 43	64 20 0		☉'s U. L.	Eaſterly.
		51 12½	53 14½			☉'s L. L.	
	9 34¼	0 11 58¼	14 20¼	47 40 0		☉'s U. L.	
	12 31¼	0 14 55¼	17 20¼			☉'s L. L.	
♄ —— 30.					2 36 28,90		
	0 6¼	4 57 42	55 18	47 40 0		☉'s L. L.	Weſterly.
	03 5	5 0 40	58 17½			☉'s U. L.	
	23 34	6 21 32	19 30	64 20 0		☉'s L. L.	
	26 06¼	24 04	22 0½			☉'s U. L.	
	54 17¼	23 56 36	58 53	51 0 0		☉'s U. L.	Eaſterly.
	57 06	59 25	1 41½			☉'s L. L.	

Observations made on Point Venus, in Otaheite, Continued						
1771	Equal Altitudes Time by the Clock B			Zenith Distances	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
		H		° ′ ″	H	
☉ May 1					2 37 54,68	
	18 28½	5 16 12	13 54	51 0 0		☉'s L L Westerly
	21 18½	19 1	16 44¼			☉'s U L
☽ — 2	47 11½	23 49 28½	51 43	53 40 0		☉'s U L Easterly
	49 59	52 14½	54 29			☉'s L L
♂ — 3					2 42 46,73	
	35 21½	5 33 06	30 51	53 40 0		☉'s L L Westerly
	38 08	35 53½	33 39			☉'s U L
	54 51	22 56 56	59 0	65 0 0		☉'s U L Easterly
	57 26	59 30	1 33			☉'s L L
	33 37½	23 35 48½	37 59	57 0 0		☉'s U L
	36 19	38 30	40 42			☉'s L L
☿ — 4					2 45 14,18	
	53 56	5 51 44	49 32	57 0 0		☉'s L L Westerly
	56 38	54 25	52 14			☉'s U L
	32 53	6 30 46½		65 0 0		☉'s L L
	35 25	33 21	31 18			☉'s U L
♃ — 5	38 29	23 40 41	42 52¼	57 20 0		☉'s U L Easterly
	41 11½	43 24	45 36			☉'s L L
	48 37	23 50 52½	53 7	55 20 0		☉'s U L
	51 23	53 38½	55 54			☉'s L L
♀ — 6					2 50 10,05	
	48 43½	5 46 28½	44 14¼	55 20 0		☉'s L L Westerly
	51 29½	49 14	47 0			☉'s U L
	58 56	5 56 43½	54 31	57 20 0		☉'s L L
	1 39	59 27½	57 14¼			☉'s U L
	0 59½	23 3 6	5 10	65 40 0		☉'s U L Easterly
	3 35½	5 40½	7 44			☉'s L L
	45 8	23 47 22	49 35	56 40 0		☉'s U L
	47 51½	50 06	52 20			☉'s L L
♄ — 7					2 52 39,15	
	67 13	5 55 0		56 40 0		☉'s L L Westerly
	53 58½	57 45½	55 32			☉'s U L
	41 31½	6	37 20¼	65 40 0		☉'s L L
		6 42 0	39 56			☉'s U L
		23 27 15½		61 20 0		☉'s U L Easterly
	27 44					☉'s L L
	31 41	23 33 52½	36 02	60 0 0		☉'s U L
	34 21	36 32½	38 40¼			☉'s L L
☉ — 8					2 55 08,38	
	15 44	6 13 32½	11 22	60 0 0		☉'s L L Westerly
	18 24	16 14½	14 04			☉'s U L

Obſervations made on Point Venus, in Otaheite, Continued.

1774.	Equal Altitudes. Times by the Clock B. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Diſtance. ° ′ ″	Time of apparent Noon by the Clock. H ′ ″	Phenomena and Remarks.
☉ May 8.	22 18¾			61 20 0		☉'s L. L. Weſterly.
		6 22 48½				☉'s U. L.
	38 13½	23 40 25	42 34	59 20 0		☉'s U. L. Eaſterly.
	40 54½	43 6	45 18			☉'s L. L.
	51 44½	23 53 58	56 13	56 40 0		☉'s U. L.
	54 29	56 44	59 0			☉'s L. L.
☽ —— 9.					2 57 39,25	
	0 37	5 58 22	56 6¼	56 40 0		☉'s L. L. Weſterly.
	3 23	6 1 9	58 55			☉'s U. L.
	14 11½	6 11 59	9 49	59 20 0		☉'s L. L.
	16 53		12 31½			☉'s U. L.

1774.	Equal Altitudes, Times by the Watch K. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Diſtance. ° ′ ″	Time of apparent Noon by the Watch. H ′ ″	Phenomena and Remarks.
♀ April 22.	33 33	8 35 53½	38 16½	45 0 0		☉'s U. L. Eaſterly.
	36 26	38 50½	41 13			☉'s L. L.
♄ —— 23.					10 53 34,72	
	10 32½	13 8 11	5 49	45 0 0		☉'s L. L. Weſterly.
	13 26½	11 5	8 45			☉'s U. L.
☽ —— 25.	12 20	8 14 34½	16 49	49 40 0		☉'s U. L. Eaſterly.
	15 05	17 20½	19 36			☉'s L. L.
♂ —— 26.					10 53 39,55	
	32 0	13 29 45	27 28½	49 40 0		☉'s L. L. Weſterly.
	34 47	32 32	30 17			☉'s U. L.
♃ —— 28.	45 2½	7 47 12	49 20	55 40 0		☉'s U. L. Eaſterly.
	47 41½	49 51	52 0½			☉'s L. L.
♀ —— 29.					10 53 46,57	
	59 39½	13 57 29	55 18½	55 40 0		☉'s L. L. Weſterly.
	2 17	14 0 10	58 01			☉'s U. L.
	4 22½	7 6 27	8 27½	64 20 0		☉'s U. L. Eaſterly.
		8 57	10 58			☉'s L. L.
♄ —— 30.					10 53 51,15	
	40 34	14 38 33	36 30	64 20 0		☉'s L. L. Weſterly.
	43 7	41 04	39 01½			☉'s U. L.
	10 32½	8 12 51	15 08	51 0 0		☉'s U. L. Eaſterly.
	13 21	15 38	17 55½			☉'s L. L.
☉ May 1.					10 53 53,68	
	34 12	13 31 55	29 38	51 0 0		☉'s L. L. Weſterly.
	37 2	34 44	32 28½			☉'s U. L.

Obfervations made on Point Venus, in Otaheite, Continued

1774	Equal Altitudes Times by the Watch K — Lower Wire	Middle Wire	Upper Wire	Zenith Diftance	Time of apparent Noon by the Watch	Phenomena and Remarks
		H	′	°	H	
♂ May 3	4 7	7 6 12	8 15	65 0 0		⊙'s U L — Eafterly
	6 41	8 45	10 48			⊙'s L L
	42 49½	7 45 0½	47 11	57 0 0		⊙'s U L
	45 31	47 42	49 54			⊙'s L L
☿ — 4					10 54 7,56	
	2 31	14 0 19	58 08	57 0 0		⊙'s L L — Wefterly
	5 13	3 0	0 49½			⊙'s U L
	41 24	14 39 18½		65 0 0		⊙'s L L
	43 55	41 51½	39 49			⊙'s U L
♃ — 5	42 56½	7 45 8	47 19½	57 20 0		⊙'s U L — Eafterly
	45 38½	47 50½	50 03			⊙'s L L
	53 3	7 55 19	57 33	55 20 0		⊙'s U L
	55 49	58 0½	0 19½			⊙'s L L
♀ — 6					10 54 18,87	
	52 34½	13 50 20	48 6	55 20 0		⊙'s L L — Wefterly
	55 20	53 5½	50 51½			⊙'s U L
	2 46	14 0 33½	58 21	57 20 0		⊙'s L L
	5 28½	3 17½	1 4½			⊙'s U L
	47 12	7 49 25	51 38½	56 40 0		⊙'s U L — Eafterly
	49 55	52 9½	54 25½			⊙'s L L
♄ — 7					10 54 24,69	
	58 40½	13 56 27½		56 40 0		⊙'s L L — Wefterly
	1 25	59 12½	56 59½			⊙'s U L
	31 26	7 33 36½	35 46	60 0 0		⊙'s U L — Eafterly
	34 5	36 16½	38 27			⊙'s L L
☉ — 8					10 54 33,19	
	14 48½	14 12 37½	10 27	60 0 0		⊙'s L L — Wefterly
	17 28	15 19	13 8½			⊙'s U L
		7 37 45	39 54	59 20 0		⊙'s U L — Eafterly
	38 14½	40 26	42 37½			⊙'s L L
	49 03½	7 51 17	53 31½	56 40 0		⊙'s U L
	51 47½	54 2½	56 18½			⊙'s L L
☽ — 9					10 54 39,74	
	57 19½	13 55 5	52 49½	56 40 0		⊙'s L L — Wefterly
	0 5	57 51½	55 38			⊙'s U L
	10 53½	14 8 40½	6 29½	59 20 0		⊙'s L L
	13 34		9 12			⊙'s U L

The Clock was fixed up in the ufual manner, and the pendulum, in general, while here, vibrated 1° 35 each way from the perpendicular

Obſervations made at Point Venus, in Otaheite, Continued.

1774.	Meridian Zenith Diſtances. Interior Arch. ° ′ ″	Exterior Arch. G. S. V.	+″	Exterior Arch reduced. ° ′ ″	Barom. Inches.	Thermom. In Tent	Thermom. Out.	Phenomena and Remarks.
☿ May 4.	33 6 25	35 1 9	5	33 6 51	30,03	88¼	93	☉'s U. L.
	33 38 20	35 3 17	9	33 38 33				☉'s L. L.
♃ —— 5.	33 56 7	36 0 26	24	33 56 49¼	30,02	87¾	94¾	☉'s L. L.
	33 23 28	35 2 15	13	32 23 41				☉'s U. L.
	39 55 40	42 2 12	18	39 56 12	30,02	72	72½	α Pavonis.
	61 56 30	66 0 9	16	61 56 43				α Cygni.
♀ —— 6.	33 40 25	35 3 21	20	33 40 30	30,02	90	97	☉'s U. L.
	34 12 15	36 1 30	12	34 12 27				☉'s L. L.
	39 55 55	42 2 13	4	39 56 24	30,03	71½	72½	α Pavonis.
	61 56 37	66 0 10	0	61 56 54				α Cygni.
♄ —— 7.	34 29 38	36 3 6	15	34 30 4	30,03	88½	91¼	☉'s L. L.
	33 57 8	36 0 28	20	33 57 38				☉'s U. L.
	51 17 7	54 2 27	12	51 17 29¼	30,03	80¼	81	β Navis.
	30 32 52	32 2 11	18	30 33 15¼	30,03	78	79¼	Regulus.
	39 55 57	42 2 13	10	39 56 30	30,03	69½	70½	α Pavonis.
	61 56 45	66 0 10	8	61 57 2				α Cygni.
☽ —— 9.	34 30 0	36 3 7	5	34 30 21	30,03	84	91	☉'s U. L.
	35 02 22¼	37 1 16	20	35 2 40¼				☉'s L. L.
	51 17 25	54 2 28	7	51 18 2½	30,03	76½	77¾	β Navis.
	30 32 42	32 2 11	8	30 33 5½	30,03	75	76	Regulus.
	38 27 15	41 0 3	10	38 27 44				γ Leonis.
	8 24 55	8 3 29	25	8 25 21	30,03	73	72¼	Antares.
♂ —— 10.	30 32 37	32 2 10	12	30 32 43	30,03	73¼	77½	Regulus.
	38 27 12	41 0 3	15	38 27 49				γ Leonis.

For the Error of the Line of Collimation of the Quadrant.

1774.	Zenith Diſtance of the Upper Hole. Quadrant direct. Interior Arch. ° ′ ″	Exterior Arch. G. S. V.	″+	Zenith Diſtance of the Lower Hole. Quadrant inverted. Interior Arch. ° ′ ″	Exterior Arch. G. S. V.	″+	Errors. Interior Arch. ″	Errors. Exter. Arch. V. ″
May 3. Evening.	89 36 28	95 2 11	5	90 24 12	96 1 23	15		
	32	11	3	0	23	4	—16¾	—1 4¼
	25	10	20	0	23	3		
	30	11	6	04	23	7		
Morning.	89 35 55	95 2 9	15	90 25 12	96 1 25	0		
	50	9	10	25 5	25	12		
	50	9	8	25 5	25	20	—24⅙	—1 8
	48	9	10	25 0	25	10		
	40	9	5	24 55	25	0		
	45	9	7	24 55	26	0		

Obſervations made on Point Venus, in Otaheite, Continued

For the Error of the Line of Collimation of the Quadrant

1773	Zenith Diſtance of the Upper Hole, Quadrant direct. Interior Arch. ° ′ ″	Exterior Arch G S V	+′	Zenith Diſtance of the Lower Hole. Quadrant inverted. Interior Arch ″	Exterior Arch G S V	+″	Errors: Interior Arch ″	Errors: Exter Arch V ′	
May 10	89 35 50	95 2 10	0	90 24 48	96 1 24	18			
Evening	36 5	9	25	24 52	24	22			
	36 10	10	5	24 55	25	0	—25½	—1 10	
	36 0	10	8	24 50	24	18			
	35 52	9	23						
Morning	89 39 5	95 2 17	0	90 21 30	96 1 17	6			
	39 5	17	3	35	18	0			
	39 0	16	18	40	17	22			
	39 10	16	25	35	17	10	—20	—1 6	
	39 0	16	20	45	17	20			
	38 55	16	18	40	17	12	—21″½	—33″	Mean

The Latitude of Point Venus, determined by Obſervations made with Hadley's Quadrant

1774.	Altitude of ☉'s L L ° ′	Declination ° ′ ″	Latitude S ° ′ ″
♄ April 23	59 30½	12 26 54 N	17 30 41
☉ —— 24	59 11¾	12 46 48	29 47
♂ —— 26	58 51⅓	13 25 59	30 46
☿ —— 27	58 32⅓	13 45 14	30 31
♀ —— 29	57 54⅞	14 23 24	29 16
♄ —— 30	57 36¾	14 41 38	29 4
☉ May 1	57 18¼	14 59 58	28 59
☽ —— 2	57 01	16 18 2	28 9
♂ —— 3	56 42¾	15 35 52	29 48
☉ —— 8	55 17	17 1 6¾	30 5
♂ —— 10	54 46⅓	17 33 16	28 20
	The mean of all is		17 29 35

For the Dip of the Needle's South End

Face of the Inſtrument: Eaſt ° ′	Face of the Inſtrument: Weſt ° ′
31 10	31 05
31 10	29 45
31 30	30 25
30 45	33 0
30 30	33 0
30 10	31 0
30 40	32 10
30 10	31 40
30 45⅝	31 30⅝

Face of the Inſtrument: Eaſt ° ′	Face of the Inſtrument: Weſt ° ′
31 0	27 50
28 30	27 40
28 40	27 45
31 0	28 10
29 47½	27 51¼

27 51¼	
30 46⅓	
31 30⅝	
29 58¾	Mean Dip

⁂ The poles were changed between the Obſervations put down in the two firſt, and thoſe put down in the two laſt columns.

Observations at Point Venus, in Otaheite, Continued.

Lunar Observations for the Longitude of the Place.

1774.	Time by the Clock.	Apparent Time.	Zenith Distance of the ☉ or ✱.	Altitude, or Zenith Distance of the ☽.	Distance of the ☽'s L. from the ☉ or ✱.	Barom.	Therm.	Longitude East.	Remarks, &c.
	H ′ ″	H ′ ″	° ′	° ′	° ′			° ′ ″	
☽ April 25.	12 39 33			18 11⅛ U. L.	53 55¾				
	41 51			17 41$\frac{7}{12}$	53 56				
	44 31			17 14⅛	53 57				☽ and Regulus, west of her.
	46 31		49 01⅛	16 56⅕	53 58¼	30,05	72½	210 54 06	
	50 02			16 19	53 59¼				
	52 52			15 47	54 0				
				— 21″½	— 2′ 36″	Error of the Quadrants.			
	13 10 35			13 23¾	46 23				
	13 16			13 04	23				
	16 41			12 39¾	22				☽ and Antares, east of her.
	21 1		44 57$\frac{7}{12}$	12 16½	20½	30,05	72½	210 11 15	
	23 7			12 11½	18½				
	26 41			11 57⅓	17½				
♂ —— 26.	11 55 54			37 59⅛ U. L.	68 19½				
	11 58 32			37 22½	20¼				
	12 0 43			36 52⅛	22				☽ and Regulus, west of her.
	12 02 41		41 14⅝	36 25	22¼	30,07	73½	211 05 0	
	12 04 21			36 01⅓	23				
	12 06 24			35 32¼	23½				
				— 21″¼	+ 2′ 35″	Errors of the Quadrants.			
	12 16 08			33 18½	31 52				
	18 56			32 39½	51				
	20 22			32 20	50½				☽ and Antares, east of her.
	22 05		57 28⅙	31 56½	49½	30,07	73½	210 29 15	
	23 56			31 31$\frac{1}{12}$	49				
	27 56			30 35$\frac{7}{12}$	47½				
☿ —— 27.	11 40 44			54 59¾ L. L.	30 31½				
	43 01		25 37½	54 29¾	32¼	30,08	77	210 4 9	☽ and Spica ♍, west of her.
	45 02			54 0$\frac{1}{12}$	33¼				
	46 25			53 41¼	34¼				
				— 21″½	+ 2′ 39″	Errors of the Quadrants.			
	15 9 28	12 38 53,4	γ ♎ Immerged behind the ☽'s bright Limb.						Very certain.
♀ —— 29.	22 31 54		67 55⅜ U. L.	23 12 U. L.	133 25				
	33 46		67 31	22 53	24½				☉ and ☽ by the back observation.
	36 0		67 02$\frac{1}{12}$	22 23	23½	30,02	81	210 40 7½	
	37 55		66 37⅓	21 53	22¼				
	39 44		66 14	21 31	21¼				
			— 21″½	+ 1′ 2″	+ 1′ 8″	Errors of the Quadrants.			
♄ —— 30.	19 8 54			6 05½ U. L.	33 29				
	10 58			6 31	29				
	12 29			6 51¼	30				
	14 4			7 13	30½				☽ and Antares, west of her.
	15 26		41 3⅝	7 33	30½	30,02	76½	210 3 45	
	16 49			7 51¼	31½				
	18 18			8 11½	31½				
	19 43			8 30½	32¼				
	21 15			8 52	32¼				
				— 21″½	+ 2′ 50″	Error of the Quadrants.			

Observations made at Point Venus, in Otaheite, Continued

Lunar Observations for the Longitude of the Place

1774	Time by the Clock	Apparent Time	Zenith Distance of the ☉ or ✳	Altitude or Zenith Distance of the ☽	Distance of the ☽'s L. from the ☉ or ✳	Barom.	Therm.	Longitude W.	Remark
	H ′ ″	H ′	°	°					
♄ April 30	19 24 47			9 41 U L	70 47				
	26 43			10 08	46				
	28 08			10 37¾	45½				
	29 21			10 45½	45				
	30 46			11 5	45				
	32 25		59 53¼	11 27	44	30 02	76	210 17 56	☽ and α Le[illegible] [illegible] of her
	34 4			11 50½	44				
	36 30			12 24½	43				
	38 13			12 40½	42½				
	39 53			13 12¼	41½				
	22 12 0		72 42⅝ U L	41 47 U L	119 49¼				
	14 5		72 15¼	41 17	49				
	15 25		71 58½	40 57	48	30,03	79	210 8	☉ and ☽
	16 26		71 44½	40 45	48				
			− 21 ½	+ 1 32	+ 2 50′	Errors of the Quadrants			
	22 21 24		70 39¼ U L	39 58 U L	45				
	22 33		70 24½	39 18	44				
	23 35		70 10½	39 7	44¼	30 03	79	210 11 15	☉ and ☽ Errors as above
	24 35		69 58	38 53	44				
	26 14		69 16½	38 29	44				
☉ May 1	22 8 13		74 11⅛ L L	56 24	106 21				
	10 53		73 35	55 50	20				
	12 27		73 16	55 27	19¼				
	14 02		72 55	55 5	18¼				
	15 50		72 31½	54 42	17¼	30,04	79	209 44 15	☉ and ☽
	17 40		72 7	54 17	17				
	19 19		71 45½	53 52	16½				
	20 51		71 25½	53 27	16¼				
	22 46		71 0½	53 4	15¼				
	24 30		70 37½	52 39	15				
			− 21 ½	+ 4 37	+ 2 45	Errors of the Quadrants			
☽ — 2	19 7 41			22 15½ L L	61 30				
	10 15			21 40¼	30½				
	11 48			21 17¾	31¼				
	13 37			20 52¼	32				
	15 43		42 0¼	20 22	32½	30,04	74	210 18 30	☽ and Antares west of her
	17 26			20 0	33½				
	20 0			19 34	33¾				
	21 56			18 57	34½				
	24 5			18 26	35				
	25 53			18 2	35½				
				− 21	+ 2 20	Errors of the Quadrants			
	22 33 56		69 47¾ L L	63 43½ U L	93 01				
	37 39		68 59½	62 48½	93 0				
	40 19		68 25½	62 12¼	92 59	30 04	82	209 45 18	☽ and ☉
	43 16		67 48	61 32	92 57¾				
	46 1		67 12	60 53½	92 57½				
			− 21 ½	+ 1 0	+ 2 45	Errors of the Quadrants			

Observations made on Point Venus, in Otaheite, Continued.

Lunar Observations for the Longitude of the Place.

1774.	Time by the Clock. H ′ ″	Apparent Time. H ′ ″	Zenith Distance of the ☉ or *. ° ′	Altitude, or Zenith Distance of the ☽. ° ′	Distance of ☽'s L. from ☉ or *. ° ′	Barom.	Therm.	Longitude East. ° ′ ″	Remarks.
♂ May 3.	19 38 21			28 44½ L. L.	75 21½				
	42 51			27 41½	22½				
	45 27			27 5⅛	23½				
	47 29			26 38½	24½				
	49 30			26 9½	25½				
	51 38		49 47$\frac{7}{12}$	25 40	25½	30,04	73	210 23 54	☽ and Antares, West of her.
	53 24			25 15¾	26				
	55 20			24 49½	26¼				
	57 10			24 24¾	27½				
	58 53			24 0	28⅛				
				— 21″½	+ 2′ 54″	Errors of the Quadrant.			
	23 45 07		55 08¾ U. L.	59 23 U. L.	79 46½				
	46 52		54 47½	59 03	46½				
	48 18		54 32$\frac{7}{12}$	58 44	45⅚				
	49 37		54 15⅛	58 23	45	30,02	82	209 38 15	☉ and ☽.
	50 52		54 01$\frac{7}{12}$	58 05	44½				
	52 08		53 46¼	57 47	44¾				
			— 21″½	+ 3′ 0″	+ 2′ 48″¼	Errors of the Quadrant.			
☿ —— 4.	20 20 55			32 11⅓ L. L.	88 57¼				
	23 0			31 44	88 58				
	24 24			31 26	88 58¾				
	25 35			31 8	88 59¼				
	26 53			30 51½	89 0				
	28 17		58 32⅛	30 33	89 0¼	30,03	76	210 21 45	☽ and Antares, West of her.
	29 43			30 14	89 0½				
	30 55			29 57¾	89 01¼				
	32 15			29 39	89 01½				
	33 43			29 19	89 02				
				— 21″½	+ 2′ 37″½	Errors of the Quadrant.			
	23 56 12½		53 38¾ U. L.	67 37 U. L.	67 11¼				
	23 58 41		53 10¼	66 55¼	67 10¼				
	0 0 40		52 48	66 25½	67 9½	30,03	84½	210 18 0	☉ and ☽.
	0 1 37		52 26¾	66 01½	67 9				
	0 4 42		52 01¼	65 37	67 8⅓				
			— 21″½	+ 3′ 0″	+ 2′ 33″½				
♃ —— 5	19 25 14				55 33¾				
	28 3				35¼				
	30 5				35½				
	32 3				36				
	33 50		25 47⅔	56 31½	37	30,02	72	210 55 0	☽ and α Aquilæ, West of her.
	35 30				37¼				
	37 15				38				
	39 18				38½				
	40 52				39½				
	42 34				39¾				
					+ 2′ 45″	Errors of the Quadrant.			
	0 12 50		51 8½ U. L.	71 38 U. L.	54 52				
	15 36		50 39¼	71 6	51¼				
	17 25		50 19¾	70 47	50⅛				
	19 23		49 56⅛	70 27	50	30,02	84	209 42 20	☉ and ☽.
	21 30		49 34	70 9½	50				
	23 27		49 14	69 45	40¾				
			— 21″½	+ 4′ 34″	+ 2′ 47″	Errors of the Quadrant.			

Obſervations on Point Venus, in Otaheite, Continued

Lunar Obſervations for the Longitude of the Place

1774	Time by the Clock	Apparent Time.	Zenith Diſtance of the ☉ or *	Altitude, or Zenith Diſtance of the ☽	Diſtance of the ☽'s L from ☉ or *	Barom	Therm	Longitude Eaſt	Remarks
	H ′ ″	H ″	° ′	° ′	° ′				
♀ May 6,	19 47 27			65 21½ L. L.	66 58				
	49 25			64 55	66 58½				
	50 43			64 36½	66 59½				
	51 57		26 01⅛	64 20	67 0¼	30,03	72⅓	210 43 0	☽ and α Aquilæ, Weſt of her
	53 5			64 04½	67 0¾				
	54 9			63 49¾	67 1				
	55 19			63 33¾	67 1¼				
	20 15 31			58 58¾	67 8				
	16 45			58 40½	8½				
	18 14			58 20¾	9				
	19 5		27 42¾	58 10	9¼	30,03	72⅓	210 48 27	☽ and α Aquilæ, Weſt of her
	20 1			57 56	10				
	21 0			57 42	10¾				
				− 21½	+ 2 19	Errors of the Quadrant			
	0 9 54		52 20 U L	72 0 L L	42 55¼				
	12 9		51 53⅛	72 02	54¾				
	13 30		51 40¼	72 0	54				
	15 14		51 21	71 58	53¼				
	16 35		51 05⅛	71 55	54				
	17 54		50 52	71 49½	53½	30,03	86½	209 59 0	☉ and ☽
	19 3		50 38	71 46	53				
	20 23		50 24½	71 42	52½				
	21 54		50 7	71 38	51¾				
	23 5		49 55	71 36	51½				
			− 21½	+ 3 0	+ 2 17	Errors of the Quadrant.			
♄ — 7	20 39 30			65 52¾ L L.	78 37				
	40 35			65 38	38				
	41 36			65 24¾	38				
	42 40		30 31½	65 9⅛	38¼	30 03	71	211 0 0	☽ and α Aquilæ, Weſt of her
	43 36			64 57	38¼				
	44 40			64 43	38¾				
				− 21½	+ 2 57	Errors of the Quadrant.			

In the preceding Obſervations, where the objects are the Moon and a Star, the Star's true zenith diſtance is put down as it was computed; and the Moon's zenith diſtance was obſerved with the Aſtronomical Quadrant, except in the Obſervations of the Moon's diſtance from α Aquilæ, on May 5th, where both zenith diſtances are computed. Where the objects are the Moon and Sun, the Sun's zenith diſtance was obſerved with the Aſtronomical Quadrant, and the Moon's altitude with a Hadley's Sextant. In every inſtance, the true time was got from that ſhewn by the Clock.

Obſervations on Point Venus, in Otaheite, Continued

Obſervations for the Variation of the Compaſs

1774.	Zenith Diſtance of the ☉'s L. ′ ″	Azimuth of the ☉'s center ° ′	Variation Eaſt ° ′
♂ April 26	73 24 40 U L	N 64 37½ E	
	72 36 45	63 47½	5 15½
	71 55 35	63 10	
♃ —— 28	74 55 20	N 64 12½ E	
	73 56 55	63 22½	5 26
	73 17 40	63 17½	
♀ —— 29	75 9 8 L L	N 74 40 W	
	75 47 7	74 52½	5 29⅛
	76 24 8	75 12½	
	79 40 40	N 64 55 E	
	78 44 50	64 30	6 0½
	78 25 0	64 15	
	75 55 30 U L.	N 64 0 E	
	39 25	63 25	5 48⅛
	21 05	63 15	
♄ —— 30.	78 26 50 L. L	N 75 40 W	
	79 20 12	76 0	5 26¼
	79 51 58	76 25	
	80 48 30 U L.	N 65 15 E.	
	80 13 30	65 10	5 49½
	79 43 30	65 02½	
☉ May 1	76 14 55 U L	N 75 20 W	
	76 40 5	75 15	5 57¼
	77 8 30	75 25	
	80 29 35 L I	N 64 37 E	
	79 53 0	64 25	5 49¼
	79 15 20	64 20	

1774.	Zenith Diſtance of the ☉'s L ′ ″	Azimuth of the ☉'s center	Variation Eaſt. ° ′
☽ May 2	81 27 10 L L.	N 64 40 E	
	81 11 25	64 30	6 10¼
	80 31 5	64 10	
☿ —— 4	85 2 55 U L	N 77 40 W	
	85 34 30	77 47½	5 57½
	86 5 17	78 5	
♀ —— 6	76 11 30 U L	N 61 50 E	
	75 45 55	61 40	5 23¾
	75 19 30	61 15	
♄ —— 7	83 26 30 L L.	N 75 45 W	
	84 2 38	76 0	5 48
	84 29 40	76 17½	
	82 43 0 L L.	N 62 25 E	
	81 56 0	63 0	6 25¼
	80 55 55	62 50	
	Altit. ☉'s L L.		
☽ —— 9	3 6 15	N 76 30 W	
	2 33 45	76 30	5 34¼
	2 8 30	76 40	
	7 33 30	N 74 50 W	
	7 4 0	73 10	6 10½
	6 35 30	75 22½	

1774	Time of apparent Noon by Clock H ″	Syderial Time of apparent Noon H	Clock before Syderial Time ″	Clock loſes on Syderial Time ″
♄ April 23	2 19 43 8	2 2 15 76	17 28,13	
♂ —— 26	2 26 55 03	2 13 31 18	13 23 85	1 21 43
☿ —— 27	2 29 19,91	2 17 17 39	12 2 52	1 21 33
♀ —— 29	2 34 03 57	2 24 51 21	9 12 36	1 25 08
♄ —— 30.	2 36 28 90	2 28 38 91	7 49 99	1 22 37
☉ May 1	2 37 54,68	2 32 27 21	5 27 47	2 * 22 52
♂ —— 3	2 42 46 73	2 40 05 42	2 41 31	1 23 08
☿ —— 4	2 45 14 18	2 43 55 37	1 18 81	1 22 50
			Clock ſlow	1 22,91
♀ —— 6	2 50 10,05	2 51 37 07	1 27 02	
♄ —— 7	2 52 39 15	2 55 28 78	2 49 63	1 22 61
☉ —— 8	2 55 08 38	2 59 21 0	4 12 69	1 23 01
☽ —— 9	2 57 39 25	3 3 13 9,	5 34,72	1 22 03
	Mean (rejecting the 30th of April) is			1 22 64

As I had reaſon when I went on ſhore at this place, to think I ſhould not ſtay above two or three days, the Clock was firſt ſet up in the ſhip's tent; but on the 28th of April, finding that I was likely to ſtay longer, and that the Clock was liable to be diſturbed, I removed the ſhip's tent, and erected the Obſervatory over the Clock as it ſtood

* The Clock ſeems here to have ſtopped exactly one minute I know not how to account for it, as I never left either the caſe or face of the Clock unlocked.

By taking the firſt and laſt day's Obſervations, the Clock's loſs is 1 22″,68

Obſervations on Point Venus, in Otaheite, Continued

Obſervations on the Tides

the reef is not only of much greater extent, and of courſe the quantity of water thrown over greater, but alſo as there is only one opening, inſtead of two, for the diſcharge of the water that is thrown over I may add likewiſe that the ſurf is, from whatever cauſe it may happen, generally much greater at Ulietea than at Otaheite It is moreover evident, that if this be the cauſe, the Tides will be more ſenſible in or near the openings than farther within the reef and ſo it appears to be from the Obſervations for Captain Cook and Mr Green tried them at the point A in the Map, and had only 10 or 12 inches at the Spring tides Mr Bayley and myſelf tried them at the point B, and had 14 or 15 inches, a day or two before the change and laſtly, I ſounded acroſs from the Obſervatory to the rock marked C in the Map, at high water and had between ſeven and eight feet water, and yet many of our people walked acroſs it at low water to gather ſhells on the rock

Theſe were all the Experiments I was able to make for elucidating this affair, although I landed on Point Venus the ſecond time, with a determined reſolution to make ſome Experiments that might be deciſive But, after examining the coaſt both ways, as far as my other buſineſs would permit me to go, I found no place which was not ſheltered by the reef in the ſame manner that Point Venus is, and of courſe liable to the ſame objections, or on which a ſurf did not break ſo great as to render it totally impoſſible to make any obſervations that would turn to the leaſt account

On the whole, I give it as my opinion, from the fulleſt conviction that the matter would allow of, that the abſolute height of the Tides is the ſame as it is in other parts of this widely extended ocean, viz about three feet at the higheſt Spring tides, and about two feet at the neaps

Obſervations on the Tides at Ohamaneno Harbour, in the Iſland of Ulietea

1774	Apparent Time H	M	Height of the Tides F	I	Remarks
☿ May 25	23	10	——		High Water
♃ —— 26	0	0	0	8¼	High Water
♀ —— 27	19	0	——		Low Water
♄ —— 28	1	0	0	7¼	High Water
	20	30	——		Low Water
☉ —— 29	1	55	0	7⅛	High Water
	21	0	——		Low Water
☽ —— 30	2	30	0	7½	High Water
	21	30			Low Water
♂ —— 31	3	30	0	7½	High Water

The times of high and low water muſt not be too much relied on as the ſmall, and very ſlow riſe of the water rendered it impoſſible to determine them with any accuracy But the different heights of the water admitted of the moſt exact determination the water having not the leaſt motion at any time, ſo that one eighth of an inch was very diſcernible, and I am fully perſuaded, from thence, that none of the numbers in the third column can err one-fourth of an inch

Obſervations at the Iſland of Tanna, one of the New Hebrides.

1774.	Equal Altitudes. Times by the Watch K. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Diſtances.	Time of apparent Noon by the Watch.	Phenomena and Remarks.	
	′ ″	H ′ ″	′ ″	° ′ ″	H ′ ″		
♄ Auguſt 6.	43 36	9 46 16½	48 57	48 0 0		☉'s U. L.	Eaſterly.
	46 52	49 33½	52 16½			☉'s L. L.	
☉ —— 7.					11 56 48,2		
	6 58½	14 4 16	1 34:	48 0 0		☉'s L. L.	Weſterly.
	10 12½	7 34	4 55			☉'s U. L.	
☿ —— 10.	———	9 6 24½	8 43	54 20 0		☉'s U. L.	Eaſterly.
	6 54	9 13	11 32½			☉'s L. L.	
	12 54:	9 15 17½	17 39:	52 40 0		☉'s U. L.	
	15 48:	18 10	20 31½			☉'s L. L.	
♃ —— 11.					11 57 8,16		
	38 40½	14 ———	33 56	52 40 0		☉'s L. L.	Weſterly.
	41 35	14 39 12	36 51½			☉'s U. L.	
	47 36½	14 45 17	42 59	54 20 0		☉'s L. L.	
	———	48 8	45 49½			☉'s U. L.	
	41 48	9 44 23	46 58	47 20 0		☉'s U. L.	Eaſterly.
	44 56	———	50 9			☉'s L. L.	
♀ —— 12.					11 57 13,42		
	———	14 7 5½	———	47 20 0		☉'s L. L.	Weſterly.
	12 54	———	7 42			☉'s U. L.	
☉ —— 14.	———	9 27 33	30 0	49 40 0		☉'s U. L.	Eaſterly.
	28 5	9 30 31	———			☉'s L. L.	
	36 17:	9 38 50	———	47 40 0		☉'s U. L.	
	39 21	———	44 25			☉'s L. L.	
☽ —— 15.					11 57 23,29		
	15 40	14 13 08	10 39½	47 40 0		☉'s L. L.	Weſterly.
	18 41	16 14	13 44½			☉'s U. L.	
	26 55	14 24 29	22 4	49 40 0		☉'s L. L.	
	29 50	27 24	25 2			☉'s U. L.	
♂ —— 16.	8 54	9 11 10	13 27	52 20 0		☉'s U. L.	Eaſterly.
	11 40	13 58	16 15			☉'s L. L.	
	17 38	9 19 58	21 17	50 40 0		☉'s U. L.	
	20 29	22 49	25 10			☉'s L. L.	
☿ —— 17.					11 57 27,58		
	34 40	14 32 19½	30 0	50 40 0		☉'s L. L.	Weſterly.
	37 31	35 11	32 53			☉'s U. L.	
	43 29½	14 41 11	38 53½	52 20 0		☉'s L. L.	
	46 16	44 0	41 44			☉'s U. L.	
♃ —— 18.	12 4	9 14 21	16 37	51 20 0		☉'s U. L.	Eaſterly.
	14 51	17 8	19 26			☉'s L. L.	
♀ —— 19.					11 57 31,72		
	40 27	14 38 10	———	51 20 0		☉'s E. L.	Weſterly.
	43 13½	40 56	38 41½			☉'s U. L.	

Obſervations at the Iſland of Tanna, one of the New Hebrides, Continued

Obſervations for the Variation of the Compaſs

1774	Time by the Watch K	Azimuth of the ☉'s Center	Variation Eaſt
	H ′ ″	° ′	°
☽ Auguſt 8	6 41 17	N 65 10 E	6 7
	43 1	65 0	
	44 51½	64 30	
	46 42	64 35	
♂ —— 9	16 43 40½	N 75 55 W	6 49½
	44 52½	75 25	
	46 10	74 55	
	47 11½	75 52½	
☉ —— 14	7 48 18	N 58 0 E	8 4½
	48 37	57 40	
	48 56	58 0	
☽ —— 15	6 42 18	N 65 45 E	7 35½
	44 45	65 40	
	45 26	64 35	
♃ —— 18	6 44 5	N 66 0 E	7 34½
	45 13	66 02½	
	46 40½	66 25	

Obſervations for the Dip of the Needle

1774	Face of the Inſtrument. Eaſt	West
	°	°
☉ Auguſt 7	44 25	45 05
	43 05	46 30
	Changed the Poles	
	42 45	45 50
	44 0	46 30
	Changed the Poles	
	44 45	46 30
	44 35	44 20
	44 30	45 25
☿ —— 17	44 40	45 50
	45 0	43 10
	Changed the Poles	
	46 05	44 30
	44 15	43 45
	44 55	43 05
	Changed the Poles.	
	45 25	45 35
	46 10	46 40
	Changed the Poles	
	45 45	45 10
	46 45	45 0
	45 15	45 50
Mean	45 02½	Dip of the Needle's S end

Observations at the Island of Tanna, one of the New Hebrides, Continued.

Lunar Observations for the Longitude.

1774.	Time by the Watch K. H ′ ″	Apparent Time. H ′ ″	Zenith Distance of the ☽'s U.L. ° ′	Distance of the ☽'s L. from ☉ or ✱. ° ′	Error of the Quadrant. ′ ″	Longitude East. ° ′ ″	Remarks.
☽ Aug. 15.	14 40 22½		46 22½	92 6			☉ and ☽'s Limbs.
	41 58		46 0¼	6½			Barometer 29,97.
	43 20½		45 42¼	6½			Thermometer 81½.
	44 44		45 21	6½	+1 16	170 12 0	Dollond's Quadrant.
	47 54½		44 39	8¼			
	49 05		44 22¼	9			
	50 31		44 2½	10			
	14 53 9		43 29¼	92 11			☉ and ☽.
	54 41		43 7½	11¾			Barometer 29,97.
	55 46		42 52	11¾	+1 58½	169 42 37	Thermometer 81¼.
	56 45		42 38¼	12			Ramsden's Quad.
	58 8		42 19¼	12¼			
	59 32		41 59¼	13½			
	18 32 39			36 6½			☽ and Spica.
	35 2			8¼			Barometer 30,08.
	35 51			8	+1 20	169 35 38	Thermometer 81.
	38 39			9¼			Cloudy.
	39 4½			9			
	18 47 52			63 28			☽ and α Aquilæ.
	48 45			27¼	+1 20	169 40 37	Barometer 30,08.
	50 57			26¼			Thermometer 81.
	52 37			26½			Very cloudy.
☿ —— 17.	15 21 26		62 6½	119 10¼			
	24 3½		61 33½	12¼			
	25 9		61 18¾	12½			
	26 20		61 2¼	13¼			☉ and ☽.
	27 18		60 45½	14	+1 47½	169 53 15	Barometer 30,07.
	28 52		60 28	14¼			Thermometer 79½.
	29 52½		60 13½	15			Ramsden's Quad.
	30 56		60 0½	15¼			
	31 45		59 48¼	16			
	32 52		59 33½	16½			
						169 48 49½	Mean of all.

Obſervations made at the Iſland of Tanna, one of the New Hebrides

Obſervations on the Tides

1774	Apparent Time H ′	Height of the Tide F I	Remarks
♄ Auguſt 6	4 48		Time of high water eſtimated
	22 14		The water at a mark
	23 42		Low water by equal altitudes.
☉ —— 7	1 10		The water returned to the mark
	5 47	3 0	High water by eſtimation
☿ —— 17	20 45		Low water by eſtimation
	3 48		The water at a mark
♃ —— 18.	0 1		The water at another mark
	2 55	3 01	High water by equal altitudes
	5 37		Water returned to the latter mark

1774	Apparent Time H ′	Height of the Tide F I	Remarks
♃ Auguſt 18	5 58		Water returned to the firſt mark
	21 30		Low water by eſtimation
♀ —— 19	2 10		The water at a mark
	2 30		The water at a ſecond mark
	3 50½	3 5	High water by equal altitudes
	5 15		Water returned to the latter mark
	5 25		Water returned to the firſt mark

The high and low waters were marked on a poſt and the diſtance between theſe marks meaſured with a two feet rule

Computations of the going of Mr Kendall's Watch

1774	Time of apparent Noon by the Watch H ′ ″	Mean Time of apparent Noon. H ′ ″	Watch too ſlow for mean Time H ′ ″	Watch gains between the Obſervations ′ ″	Watch gains each Day ″
☉ Auguſt 7	11 56 48 2	24 5 23 23	12 8 35 03		
♃ —— 11	11 57 08 16	4 51 64	7 43 48	0 51 55	12 89
♀ —— 12	11 57 13 49	4 42 32	7 28,90	0 14 58	14 58
☽ —— 15	11 57 23 29	4 10 82	6 47 53	0 41 32	13 79
☿ —— 17	11 57 27 58	3 47 14	6 19 56	0 27 97	13 98
♀ —— 19.	11 57 31 74	3 21 21	5 49 49	0 30 07	15 03
				Mean	14 054

If the gain between the firſt and laſt Obſervation be taken and divided by the number of days elapſed, the daily gain of the Watch on mean time will be 13 ,795 but if a mean of all the compariſons which can be formed out of the ſix day's Obſervations be taken, the daily gain on mean time will be 13 ,938

Obſervations for the Latitude of the Place

1774	Double Altitude of the ☉'s L L ° ′ ″		Latitude South ° ′ ″
☉ Aug 7	107 24 0	Dollond's Quadrant	19 32 18
♂ —— 9	108 31 30	Ditto	19 32 33
☿ —— 10	109 7 10	Ramſden's ditto	19 32 7
♃ —— 11	109 41 52	Ditto	19 32 25
♀ —— 12	110 17 8	Dollond's ditto.	19 32 41
☽ —— 15	113 11 0	Ditto	19 32 29
♂ —— 16	113 48 45	Ramſden's ditto	19 32 25¼
		Mean Latitude	19 32 25¼ South

Observations made on the Island Pudyoua, on the Coast of New Caledonia.

1774.	Equal Altitudes. Times by the Watch K. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Distance. ° ′	Altitude of the ☉'s L. L on the Meridian. ° ′ ″	Time of apparent Noon by the Watch. H ′ ″	Remarks, &c.
☽ Sept. 5.	23 11¼	9 25 19¼	27 26	49 40			☉'s U. L. } Easterly.
	25 48	27 54	30 01				☉'s L. L.
♂ —— 6.					62 59⅓	12 16 41,9	Height of the eye 10 feet.
		15 5 43		49 40			☉'s L. L. } Westerly.
	10 26	8 21	6 12½				☉'s U. L.

Observations of the Solar Eclipse.

At 13 h. 11′ 47″ by the Watch, I had a short sight of the Sun between the clouds, and saw that the Eclipse had begun: It remained cloudy until a little before two o'clock, when it cleared up, and I took the following measurements with my Hadley's Sextant, which I think may be advantageously made use of on these occasions.

1774.	Time by the Watch K. H ′ ″	Apparent Time. H ′ ″	Distance of the Cusps. After. O. ′	Before. O. ′	Distance &c. reduced. ′ ″
♂ Sept. 6.	14 10 28	1 53 45½	27½		26 54
	13 31	1 56 48¼	27½		27 9
	15 57	1 59 14½		26¼	26 36
	17 19	2 0 36½		26¼	27 6
	22 50	2 6 7½		26½	26 51
	23 45	2 7 2½		26	26 21
	24 33	2 7 50¼		26	26 21
	25 44	2 8 58½	26¼		25 54
	26 29	2 9 46½	26¼		25 54
	27 15	2 10 32½	26½		26 9
	28 22	2 11 39½	26		25 39
The Sun's diameter.			32	31½	31 57½
			32¼	31½	
			32¼	31½	
	14 34 21	2 17 38½	25¾		25 24
	35 7	18 24½	25½		25 9
	35 39	18 56½	25¼		25 9

1774.	Time by the Watch K. H ′ ″	Apparent Time. H ′ ″	Distance of the Cusps. After. O. ′	Before. O. ′	Distance, &c. reduced. ′ ″
♂ Sept. 6.	14 49 54	2 33 11½		24¼	24 30
	53 7	2 36 24½		24	24 21
	54 30	2 37 47½		24¼	24 36
	15 11 53	2 55 10¼	23¾		23 24
	12 50	2 56 7¼		22½	22 36
	13 29	2 56 46¼		22¼	22 51
	14 9	2 57 26¼	21		21 40
	14 39	2 57 56¼	21¼		21 24
	15 31	2 58 48¼		21½	21 51
			32½	31½	32 0½
			32½	31½	
			32½	31½	
			32½	31½	
	15 22 14	3 5 34¼	21		20 39
	23 36	3 6 53¼	20½		20 9
	25 59	3 9 16¼		20½	20 51
	27 25	3 10 42¼		19¾	20 6

Obſervations made on the Iſland of Pudyoua, on the Coaſt of New Caledonia, Continued

Obſervations of the Solar Eclipſe

1774.	Time by the Watch K H ′ ″	Apparent Time H ′ ″	Lucid Part. After ° ′	Lucid Part. Before ° ′	Parts &c reduced ′ ″
♂ Sept. 6	15 29 01	3 12 18¼		26½	26 51
	30 13	3 13 30½		27¼	27 36
	30 50	3 14 7½	28¼		27 54
	31 42	3 14 59½	28½		27 54
	32 34	3 15 51½	29		28 40
	33 9	3 16 26½	29¼		28 54
	33 52	3 17 09¼		28¼	28 36
	34 27	3 17 44½		28½	28 51
	35 3	3 18 20½		29	29 21

1774	Time by the Watch K.	Apparent Time.	☉'s Diameter After °	☉'s Diameter Before ° ′	Reduced
	After the Eclipſe		32¼	31½	32 0
			32	31½	31 52½
			32½	31½	31 52½
			32½	31½	32 0
			32½	31¼	32 0
			32¼	31¼	31 52½
W W	15 45 32	3 28 49½	End of the Eclipſe.		
Mr Clerke	45 35	52¼			
Capt Cook	45 36	53¼			

As the cuſps approach each other the faſteſt towards the end of the Eclipſe, it would certainly have been beſt to continue meaſuring their diſtance to the end, if it could have been done with exactneſs; but I found that when they began to grow very obtuſe, it was not eaſy to determine their coincidence, at leaſt with ſo ſmall a magnifying power as is generally uſed with Hadley's quadrant If a micrometer on the ſame principles with Hadley s quadrant was applied to a proper teleſcope, which I think might be done with ſome advantage, this defect might probably vaniſh; as things are, I think it would be beſt always to meaſure the parts uneclipſed

Of the Tides

The diſtance which we lay from the ſhore, and the difficulty of getting thither, would not permit me to make a regular ſeries of Obſervations on the Tides; but I found by equal altitudes of the water, that it was low water at the iſland where I obſerved the eclipſe at 18 paſt noon of the 6th; and, as near as I could eſtimate, it was high water on the ſhore oppoſite the ſhip, at half paſt ſix o clock the next morning. At 58 paſt noon on the 7th it was low water; but I could determine nothing with reſpect to the quantity it had ebbed, as the natives would not ſuffer any mark to ſtand on the ſhore, and there was no fixed object by which it could be done The next morning I got the time of high water very accurately, by means of equal altitudes, at 19 h 29, and found that it had flowed three feet and near an inch from yeſterday s low water mark At five or ten minutes paſt two o clock on the 8th, it was low water, and I found that it had ebbed out from this morning's high water mark three feet and an inch nearly These were all the remarks of this ſort which I was able to make here

Obſervations made on Board the Ship, at Anchor.

Obſervations of Meridian Altitudes for the Latitude.

1774.		Meridian Altitude of the ☉'s L. L. ° ′	Latitude. ° ′ ″	Quadrant.
☿ Sept.	7.	63 $23\frac{1}{2}$	20 16 40	Ramſden.
♃ ——	8.	63 $45\frac{1}{4}$	20 16 52	Dollond.
♀ ——	9.	64 $8\frac{1}{12}$	20 16 48	Ramſden.
♄ ——	10.	64 $29\frac{1}{4}$	20 18 20	Ramſden.
☉ ——	11.	64 $52\frac{1}{2}$	20 18 0	Ramſden.
		64 $52\frac{1}{2}$	20 18 30	Dollond.
☽ ——	12.	65 $14\frac{1}{2}$	20 18 45	Dollond.
		65 $15\frac{1}{4}$	20 18 30	Ramſden.
Latitude			20 17 48	South.

*** The great difference between the latitudes deduced from the three firſt Obſervations, as well as that made on the little iſland, on ♂ the 6th, and thoſe deduced from the five laſt Obſervations, did not eſcape my notice at the time, nor did they paſs without the ſtricteſt examination, as well as care, in the four laſt, ſo that I am certain no miſtake has happened in them; and that no miſtake has been committed in the former may reaſonably be concluded, as they agreed exceeding near with thoſe taken by Mr. Clerke and others on the little iſland.

N. B. The ſmall iſland, where I obſerved the Eclipſe, bore S. 88 E. by compaſs, about a mile diſtant; that is, about S. 79° E. true: Of courſe the difference of latitude is about 11″, whence the latitude of the iſland will be 20° 17′ 59″ S.

Obſervations for the Longitude by the Watch K.

1774.		Time by the Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′ ″	Barometer.	Thermometers. A.	Thermometers. B.	Longitude by the Watch. ° ′ ″	No. of Obſervations.	Remarks.
☽ Sept.	5.	15 17 $44\frac{1}{2}$	3 0 50,7	37 45 54	30,09	77	$75\frac{2}{3}$	163 55 $22\frac{1}{2}$	10	Cloudy.
♂ ——	6.	9 49 $24\frac{2}{3}$	21 32 $45\frac{1}{2}$	44 59 44	30,08	$73\frac{1}{2}$	$72\frac{1}{2}$	163 56 $37\frac{1}{2}$	6	
☿ ——	7.	7 13 4	18 56 36	11 0 10	30,04	$73\frac{1}{2}$	$72\frac{1}{4}$	163 58 0	6	
♃ ——	8.	7 9 $4\frac{1}{2}$	18 51 $33\frac{1}{2}$	9 58 52	30,08	$73\frac{1}{4}$	$74\frac{1}{4}$	163 55 45	6	
♀ ——	9.	7 54 $14\frac{1}{2}$	19 37 54	20 43 41	30,09	$73\frac{1}{2}$	71	163 56 45	6	
♄ ——	10.	16 5 39	3 49 22,7	28 9 10	30,06	76	75	163 57 0	8	Diſt.
		16 12 $2\frac{1}{2}$	3 55 50	26 42 40	30,06	76	75	163 58 0	6	Diſt.
		8 24 32	20 8 16	27 44 23	30,21	$73\frac{3}{4}$	72	163 56 $7\frac{1}{2}$	10	
☉ ——	11.	15 21 $21\frac{2}{3}$	3 5 10	38 1 9	30,08	$74\frac{3}{4}$	$76\frac{1}{2}$	163 56 $37\frac{1}{2}$	6	
		7 38 $2\frac{1}{2}$	19 21 52	17 22 $7\frac{1}{2}$	30,14	74	$72\frac{3}{4}$	163 55 $52\frac{1}{2}$	6	
		15 5 $14\frac{1}{2}$	2 49 12	41 37 $13\frac{1}{2}$	30,08	$76\frac{1}{2}$	79	163 57 15	8	Diſt.
					Mean of all			163 56 $40\frac{1}{4}$	Eaſt.	

Obſervations made on Board the Ship, at Anchor

Obſervations for the Variation of the Compaſs

1774	Altitude of the ☉'s L L	Azimuth of the ☉'s Center	Variation Eaſt	No of Obſervat.	Remarks
	° ′ ″		° ′		
☿ Sept 7	7 2 24	N 73 3 E	7 59¼	5	Gregory's Compaſs, obſerved by Mr Clerke
	8 5 20	N 72 22 E	8 15	5	Gregory's Compaſs
♃ —— 8	6 0 10	N 73 46 E	7 42½	5	Gregory's Compaſs
	8 24 2	N 72 22 E	8 30½	5	Knight's Compaſs
♀ —— 9	10 31 24	N 71 3 E	9 25	10	Knight's Compaſs
☉ —— 11	10 12 45	N 72 3 E	9 22½	10	Knight's Compaſs
		Mean	8 32¼	Eaſt	

This variation, as uſual, is conſiderably leſs than any obſerved at ſea for ſome time, both before and after we were at this place

Lunar Obſervations for the Longitude

1774	Time by the Watch K	Apparent Time	Altitude of the ☉ or ✱	Moon's Altitude	Diſtance ☽'s Limb from ☉ or ✱	Barom	Ther	Longitude Eaſt	Remarks
	H ′ ″	H ′ ″	° ′	° ′	° ′ ″			° ′	
♀ Sept 9	19 3 56¾	6 47 11½	65 53½ tr	27 4 tr	42 17 30	30 08	71½	165 17¾	☽ and Antares, a mean of 7 Obſervations
♄ —— 10	16 5 39	3 49 22 7	28 9⅞ L L	76 29½ L. L.	50 4 22½	30,06	75	164 15½	☉ and ☽ a mean of 8 Obſervations
	16 12 2½	3 55 50	26 42½ L L	75 31 L L.	50 6 22	30,06	75	164 13¾	☉ and ☽ a mean of 6 Obſervations
☉ —— 11	19 4 54	6 48 43	19 6 tr	52 32 tr	32 48 28¾	30,18	73	164 31⅜	☽ and Spica a mean of 8 Obſervations
	19 25 58⅓	7 9 57½	56 27½	47 44½ tr	66 23 17½	30,18	73	164 56¾	☽ and α Aquilæ a mean of 6 Obſervations
☽ —— 12	15 5 14	2 49 12	41 37¾ L L		75 56 50	30,08	79	164 19¾	☉ and ☽ a mean of 8 Obſervations
	15 13 44	2 57 42	39 47¾ L L		75 59 36¼	30,08	79	164 22¾	☉ and ☽ a mean of 8 Obſervations
	19 9 34¼	2 53 33	54 42½	54 34 tr	54 16 10½	30,10	73¾	165 40¾	☽ and α Aquilæ a mean of 8 Obſ Cloudy

As it frequently happened that the altitude of one or both of the objects could not be obſerved for the land I was obliged to compute them from the apparent time deduced from the Watch; and ſuch are here marked tr The numbers put down are the true altitude of the center

The mean of the above Obſervations give 164° 42 6 ¾ for the Longitude of the ſhip. Twenty Obſervations taken before we arrived and reduced hither by the Watch give 164° 45 54 ½; and twenty taken after leaving the place gave 164° 32 32″ the mean of theſe three is 164 40 11 E the Longitude of the ſhip at anchor The bearing and diſtance of the little Iſland where I obſerved the eclipſe gives 1 3 for the difference of Longitude between the ſhip and Iſland and of courſe the Longitude of the latter will be 164 41 14 E but the Watch gave only 27 ½ difference of Longitude; and therefore if this be taken its Longitude will be no more than 164 40 38 ½ E I ſhould prefer the former

Observations made at Queen Charlotte's Sound, in New Zealand.

1774.	Equal Altitudes. Times by the Clock B.			Zenith Distance.	Azimuth of ☉'s center from the North at the times of equal Altitudes.			Time of apparent Noon by the Clock.	Phenomena and Remarks.	
	Lower Wire.	Middle Wire.	Upper Wire.		Lower Wire.	Middle Wire.	Upper Wire.			
	′ ″	H ′ ″	′ ″	° ′ ″	° ′	° ′	° ′	H ′ ″		
♀ Oct. 21.	19 21	9 21 40½	24 1	64 40 0					☉'s U. L.	Easterly.
	22 14½	24 36:	26 56						☉'s L. L.	
	33 06	11 35 59½	38 54½	41 20 0					☉'s U. L.	
	36 41	39 44:	42 34½						☉'s L. L.	
♄ — 22.								13 47 14,28		
		15 55 7½	58 11½	41 20 0					☉'s L. L.	Westerly.
	1 42	58 50	55 57						☉'s U. L.	
	12 39½	18 10 18½	7 58	64 40 0					☉'s L. L.	
	15 36	13 15½	10 55						☉'s U. L.	
	6 48½	10 9 15	11 39	56 20 0					☉'s U. L.	Easterly.
	9 49½	12 14½	14 38½						☉'s L. L.	
	52 1	10 54 34	57 7	48 20 0					☉'s U. L.	
	55 11	57 46	0 20½						☉'s L. L.	
☉ — 23.								13 50 45,29		
	46 41	16 44 6½		48 20 0					☉'s L. L.	Westerly.
	49 51	47 19	44 46						☉'s U. L.	
	32 04	17 29 39	27 16	56 20 0					☉'s L. L.	
	35 03½	32 40½	30 17						☉'s U. L.	
	38 18½	9 40 42	43 3	62 0 0					☉'s U. L.	Easterly.
	41 16½	43 38½	46 59						☉'s L. L.	
☽ — 24.								13 54 19,11		
	7 47			62 0 0					☉'s L. L.	Very cloudy. Westerly.
	10 45	18 8 23							☉'s U. L.	
♂ — 25.	39 28	9 41 49½	44 9	62 40 0	69 0	68 25	68 0		☉'s U. L.	Easterly.
	42 25	44 45:	47 4½		68 25	67 55	67 45		☉'s L. L.	
	52 02:	9 54 23½	56 44	60 20 0	67 0	66 30	66 0		☉'s U. L.	
	54 58	57 19½	59 41		66 20	66 0			☉'s L. L.	
☿ — 26.					Varia.	14 20	East.	14 1 28,25		
	8 23½	18 6 1½		60 20 0	94 45	94 25			☉'s L. L.	Westerly.
	11 21½	8 59	6 39		95 15	94 40	94 35		☉'s U. L.	
	20 58	18 18 37½	16 19:	62 40 0	97 30	96 50	96 25		☉'s L. L.	
	23 53½:	21 34	19 13½		97 50	97 30	96 55		☉'s U. L.	
♃ — 27.	31 52½	9 34 13	36 32	65 0 0	72 5	71 50	71 30		☉'s U. L.	Easterly.
	34 47½	37 7½	39 27		71 45	71 25	71 05		☉'s L. L.	
		9 46 42½	49 1	62 40 0		69 50	69 25		☉'s U. L.	
	47 16	49 37	51 57½		69 45	69 25	69 0		☉'s L. L.	
♀ — 28.					Varia.	13 59¼	East.	14 8 42,29		
	30 34½	18 28 13:		62 40 0	97 50	97 15	96 55		☉'s L. L.	Westerly.
		19 31 8:				97 45			☉'s U. L.	
	43 2½	18 40 40½	38 24:	65 0 0	99 35	99 20	99 10		☉'s L. L.	
	45 58½	43 30½	41 17		100 20	99 45	99 30		☉'s U. L.	
☉ — 30.	55 27½	9 57 47½	0 7	62 0 0	70 55	70 20	70 05		☉'s U. L.	Easterly.
	58 22	10 0 42:	3 2½		70 15	70 05	69 45		☉'s L. L.	
	7 58	10 10 19	12 39½	59 40 0	68 15	68 5	68 0		☉'s U. L.	
	10 54	13 15	15 35		68 0	67 50	67 15		☉'s L. L.	
☽ — 31.					Varia.	14 18½	East.	14 19 36,89		
	28 42½	18 26 22	24 2½	59 40 0	96 45	96 0	95 40		☉'s L. L.	Westerly.
	31 38½	29 18	26 59		97 15	96 55	96 5		☉'s U. L.	
	41 16½:	18	36 34½	62 0 0	99 0		98 30		☉'s L. L.	
		41 50:	39 29:			99 5	98 45		☉'s U. L.	

Obſervations made at Queen Charlotte's Sound, Continued

1774	Equal Altitudes. Times by the Clock B. Lower Wire	Middle Wire (H ′ ″)	Upper Wire (′ ″)	Zenith Diſtance (° ′ ″)	Azimuth of ☉'s centre from the North at the times of equal Altitudes. Lower Wire (° ′)	Middle Wire	Upper Wire	Time of apparent Noon by the Clock (H ′ ″ ‴)	Phenomena and Remarks
☿ Nov 2	6 45	10 9 6	11 24	61 20 0	71 35	71 20			☉ s U L Eaſterly
	9 40½	12 0	14 20		71 20	71 0	70 50		☉ s L L
	19 13	10 21 34	23 53½	59 0 0	69 40	69 25	69 20		☉ s U L
	22 10	24 30½	26 51		69 20	69 20	69 05		☉ s L L
♃ — 3					Varia	14 15	Eaſt	14 30 37 10	
	39 25½	18 37 5	34 45	59 0 0	97 45	97 25	97 0		☉ s L L Weſterly
	42 23	40 2½	37 43		98 10	97 50	97 30		☉ s U L
	51 56	18 49 36½	47 16½	61 20 0	100 25	99 30	99 10		☉ s L L
	54 53	52 32	50 13½		100 35	100 25	99 35		☉ s U L
	46 57½	10 49 20	51 40½	54 20 0	65 0	64 45	64 15		☉ s U L Eaſterly
	49 55½	52 18	54 39½		64 45	64 10	63 35		☉ s L L
♀ — 4					Varia	14 48½	Eaſt	14 34 18 45	
	19 0	18 16 40	14 18	54 20 0	94 30	93 30	93 15		☉ s L L Weſterly
	21 58½	19 37	17 17		94 45	94 35	93 35		☉ s U L
		9 56 39	58 57½	64 40 0		75 0	74 35		☉ s U L Eaſterly
		59 33½	1 51½			74 30	74 15		☉ s L L
	28 7½	10 30 29	32 48	58 20 0	69 35	69 15	69 0		☉ s U L
	31 4½	33 25½	35 45		69 15	69 0	68 30		☉ s L L
♄ — 5					Varia	14 24½	Eaſt	14 38 0 49	
	45 17½	18 42 56½	40 38	58 20 0	98 0	97 35	97 10		☉ s L L Weſterly
	48 13½	45 53	43 34		98 25	98 05	97 40		☉ s U L
		19 16 51	14 32½	64 40 0		103 35	103 5		☉ s L L
		19 46	17 27			103 50	103 40		☉ s U L

⁎ The Obſervatory ſtood exactly in the place where it did laſt year, and where I obſerved the equal altitudes in May and June, 1773 The Clock alſo was fixed up in the uſual manner, by means of the iron block and frame but I had the mortification to find it ſo much injured by the dampneſs of the place it had lain in, and the parts, particularly the pendulum, ſo covered with ruſt, that it would not go without freſh oil, and an additional weight for the firſt day or two after it was ſet up

Obſervations made at Queen Charlotte's Sound, Continued.

Computations of the Clock's Rate of going.

1774.		Time of apparent Noon by the Clock.			Syderial Time of apparent Noon.			Clock too faſt for Syderial Time.		Clock loſes between the Obſervations.	Clock loſes each Day on Syderial Time.
		H	′	″	H	′	″	′	″	″	″
♄	Oct. 22.	13	47	14,28	13	46	33,90	0	40,38	16,89	16,89
☉	—— 23.	13	50	45,29	13	50	21,80	0	23,49	15,08	15,08
☽	—— 24.	13	54	19,11	13	54	10,70	0	08,41		
								Clock ſlow.			
☿	—— 26.	14	1	28,25	14	1	50,38	0	22,13	30,54	15,27
♀	—— 28.	14	8	42,29	14	9	33,10	0	50,81	28,68	14,34
☽	—— 31.	14	19	36,89	14	21	13,10	1	36,21	45,40	15,13
☉	Nov. 3.	14	30	37,10	14	33	0,37	2	23,27	47,06	15,69
♀	—— 4.	14	34	18,45	14	86	57,78	2	39,33	16,06	16,06
♄	—— 5.	14	38	0,49	14	40	56,01	2	55,52	16,19	16,19
										Mean	15,58

If the gain between the firſt and laſt Obſervation be taken, the Clock's gain on Syderial Time will be 15″,42 each day.

The pendulum vibrated 1° 37′¼ each way from the perpendicular the whole time.

Obſervations of Meridian Altitudes of the Sun and Stars for the Latitude.

1774.		Zenith Diſtances. Interior Arch.			Exterior Arch.				Exterior Arch reduced.			Barom.	Thermom. In Tent.	Out.	Phenomena and Remarks.
		°	′	″	G.	S.	V.	+″	°	′	″				
☿	Oct. 26.	28	56	45	30	3	17	10	28	57	19	29,67	70¼	71	☉'s L. L.
♀	—— 28.	27	43	53	29	2	11	8	27	44	20½	29,67	67	68	☉'s U. L.
☽	—— 31.	27	16	52	29	0	13	21	27	17	19	29,60	65	67	☉'s L. L.
		10	17	7	10	3	29	0	10	17	26	29,61	55	50½	Fomalhaut.
		55	4	25	58	3	0	15	55	4	56	29,61	55	50½	α Pegaſi.
		68	54	28	73	2	1	5	68	54	54	29,62	53½	50	α Andromedæ.
		17	17	15	18	1	25	8	17	17	41	29,62	52½	49½	Achernar.
♂	Nov. 1.	26	24	22	28	0	21	20	26	24	33½	29,70	67	66	☉'s U. L.
☿	—— 2.	26	37	55	28	1	21	6	26	38	17½	29,38	67½	65½	☉'s L. L.
		6	56	40	7	1	21	21	6	57	23	29,40	51¼	45½	α Gruis.

Obſervations at Queen Charlotte's Sound, Continued

Obſervations of meridian Altitudes of the Sun and Stars for the Latitude

1774	Zenith Diſtances: Interior Arch ° ′ ″	Zenith Diſtances: Exterior Arch G S V	″ +	Exterior Arch reduced ° ′ ″	Barom	Thermom In Tent	Thermom Out	Phenomena and Remarks
☿ Nov 2	6 56 53	7 1 22	4	6 57 33	29,40	50½	44½	β Gruis
	10 17 7	10 3 28	23	10 17 22½	29,41	50	43	Fomalhaut
	55 4 6	58 3 0	0	55 4 41	29,41	50	43	α Pegaſi
	68 54 3	73 2 0	24	68 54 22½	29,42	48¼	43	α Andromedæ
	17 16 30	18 1 23	23	17 16 40	29,42	47	43¼	Achernar
♃ — 3	6 56 40	7 1 21	10	6 57 2½	29,49	55¼	53	α Gruis
	20 15 52	21 2 16	6	20 16 30	29,49	55¼	53	α Anſeris Americani
	6 56 55	7 1 22	10	6 57 39	29,49	51¾	48¼	β Gruis
	10 16 40	10 3 28	12	10 17 11½	29,49	51¾	48¼	Fomalhaut
	55 4 8	58 3 0	4	55 4 45	29,49	51¾	48¼	α Pegaſi
	68 54 23	73 2 0	22	68 54 44½	29,50	50	47½	α Andromedæ
	17 16 32	18 1 24	0	17 17 6½	29,54	51	50	Achernar
♀ — 4	6 56 58	7 1 22	13	6 57 29	29,52	59	56	β Gruis
	10 17 10	10 3 29	10	10 17 36	29,52	57½	53½	Fomalhaut.
	55 4 35	58 3 1	0	55 5 7½	29,52	57½	53½	α Pegaſi
♄ — 5	25 9 20	26 3 11	13	25 9 44	29,75	70	73½	☉'s U L

For the Error of the Line of Collimation of the Quadrant

1774	Zenith diſtance of the upper hole the quadrant direct: Interior Arch ° ′ ″	Exterior Arch G S V	+	Zenith diſtance of the lower hole the quadrant inverted: Interior Arch ° ′ ″	Exterior Arch G S V	+″
	89 13 25	95 0 23	0	90 45 55	96 3 8	20
	13 35	23	14	45 25	8	7
	13 40	23	7	45 25	8	9
	13 50	23	24	45 45	8	20
	13 45	23	13	45 30	8	7
	13 50	23	12	45 35	8	10
	13 37	23	20	46 35	10	20
	13 50	24	14	46 23	10	0
	14 0	23	24	46 30	10	6
	13 55	24	5	46 05	10	0
	14 05	23	20	46 05	9	20

Theſe Obſervations give four compariſons for each arch of the Quadrant viz + 21″½ — 6″½, + 15″¼ and — 0 ¼ for the interior, or 90 arch, and + 1 ¼, — 28″¾, — 6″½ and — 21″ for the exterior, or 96 arch the mean of the former is 7 ½ to be added, and of the latter 13″¾ to be ſubtracted

Obſervations at Queen Charlotte's Sound, Continued.

Computations for the Latitude of the Place.

1774.	Latitude by the Interior Arch. ° ′ ″	Latitude by the Exterior Arch. ° ′ ″	Declination. ° ′ ″
	By Obſervations of the Sun.		
☿ Oct. 26	41 5 46⅔	41 5 59½	12 24 37 S.
♀ —— 28.	41 5 58⅔	41 6 4½	13 5 23
☽ —— 31.	41 6 11⅔	41 6 17½	14 4 59
♂ Nov. 1.	41 5 29	41 5 19½	14 24 25
☿ —— 2.	41 5 51⅓	41 5 58	14 43 36½
♄ —— 5.	41 5 44⅓	41 5 47½	15 39 44½
	41 5 50⅓	41 5 54¾	Means.
	By Obſervations of Fomalhaut.		
☽ Oct. 31.	41 6 03⅔	41 6 01	30 48 40 S.
☿ Nov. 2.	41 6 03⅔	41 5 57½	
♃ —— 3.	41 5 36⅔	41 5 47	
♀ —— 4.	41 6 06⅔	41 6 11	
	41 5 57⅔	41 5 59	Means.
	By Obſervations of α Andromedæ.		
☽ Oct. 31.	41 6 6½	41 6 11	27 50 56¼ N.
☿ Nov. 2.	41 5 43	41 6 5	
♃ —— 3.	41 6 2	41 6 2	
	41 5 57	41 6 6	Means.
	By Obſervations of α Pegaſi.		
☽ Oct. 31.	41 5 51	41 6 1	14 0 03 N.
☿ Nov. 2.	41 5 33	41 5 47	
♃ —— 3.	41 5 34	41 5 50	
♀ —— 4.	41 6 0	41 6 11	
	41 5 41½	41 5 57¼	Means.

1774.	Latitude by the Interior Arch. ° ′ ″	Latitude by the Exterior Arch. ° ′ ″	Declination. ° ′ ″
	By Obſervations of α Gruis.		
☿ Nov. 2.	41 5 32	41 5 10	48 2 26½ S.
♃ —— 3.	41 5 32	41 5 21	
	41 5 32	41 5 15½	Means.
	By Obſervations of β Gruis.		
☿ Nov. 2.	41 6 13⅓	41 5 55	48 3 21 S.
♃ —— 3.	41 6 11½	41 5 39	
♀ —— 4.	41 6 8½	41 5 46	
	41 6 11⅓	41 5 46⅔	Means.
	By an Obſervation of α Anſeris Americani.		
♃ Nov. 3.	41 6 12	41 5 55	61 22 32½ S.
	By Obſervations of Achernar.		
☽ Oct. 31.	41 5 39	41 5 43	58 23 19¼ S.
☿ Nov. 2.	41 6 24½	41 6 13	
♃ —— 3.	41 6 22	41 6 15½	
	41 6 8½	41 6 4	Means.
	41 6 01	41 5 45½	Mean of the ſouthern ſtars.
	41 5 52⅓	41 5 59½	Mean of the northern ſtars.
	41 5 57	41 5 52¼	Mean of both.
	41 5 54½	Latitude South.	

Lunar Obſervations for the Longitude.

1774.	Time by the Clock. H ′ ″	Apparent Time. H ′ ″	True Alt. of ☉'s Center. ° ′	Zenith Diſtance of ☽'s U. L. ° ′	Diſtance of the ☉ and ☽'s Limbs. ° ′	Error of the Quadrant. ′ ″	Barometer.	Thermometer.	Longitude. ° ′ ″	Remarks.
☉ Oct. 23.	4 33 49	14 40 55	♃'s firſt ſatellite immerged at a ſenſible diſtance from the Planet. Mag. power 150						174 7 30	
♂ —— 25.	8 41 26	18 44 30	16 24¼	65 15¾	109 39½	+3 29	29,68	60½	174 22 50	Dollond's Quadrant.
	43 21			26½	39½					
	44 40			33½	39					
	46 2			40	38¾					
	47 14			46½	38					
	48 21			52½	38					
	8 52 44	18 54 49½	18 29½	66 17¾	109 42	—1 54	29,68	60½	174 33 55	Ramſden's Quadrant.
	53 49			23¾	41½					
	55 2			31	41¼					
	55 59			36½	41					
	57 4			42½	40¾					
	58 34			51½	40¼					

Obſervations at Queen Charlotte's Sound, Continued

Lunar Obſervations for the Longitude

1774	Time by the Clock	Apparent Time	True Altit. of ☉'s Center	Zenith Diſtance of ☽'s U. L.	Diſtance of the ☉ and ☽'s Limbs	Error of the Quadrant	Barometer	Thermometer	Longitude	Remarks
	H ′ ″	H ′ ″	° ′		° ′				° ′ ″	
♃ Oct. 27.	8 46 10	18 41 40¼	16 18⅛	57 33½	87 51½	+3 38	29 72	59	174 6 30¼	Dollond's Quadrant
	47 20			34	51½					
	48 55			35⅓	51					
	50 23			36¼	50½					
	51 24			37¼	50¼					
	53 3			39¼	49¼					
	8 55 25	18 51 21½	18 08	57 43¼	87 54¼	−1 42½	29,72	59	174 33 52	Ramſden's Quadrant
	57 3			45	54					
	58 33			47	53½					
	59 51			49	53⅓					
	9 1 35			51¼	52¾					
	3 4			54	52					
☉ — 30	10 24 59	20 9 43¼	33 28⅓	48 43⅓	53 19	+3 52	29 58	67	174 31 15	Dollond's Quadrant
	26 45			40	18¾					
	28 18			35	18¼					
	29 35			33⅓	17½					
	30 45			31	17¼					
	32 6			28½	17					
	10 34 29	20 18 49	35 8⅓	48 24	53 22½	−2 26	29 58	67	174 41 15	Ramſden's Quadrant
	35 59			21⅓	22					
	37 9			19¾	21½					
	38 41			17¾	21					
	39 56			16	20½					
	41 0			14¾	20¼					
	11 56 45	21 29 38⅓	49 15⅓	49 28¾	52 49	+3 32	29 64	70	174 20 55	Dollond's Quadrant
	58 16			36¼	48½					
	59 53			40	48¼					
	12 0 43			43	48					
	12 2 48	21 44 57	50 7¼	49 50	52 53	−2 22	29,64	70	174 28 15	Ramſden's Quadrant
	3 39			54½	53¼					
	4 33			56½	52¾					
	5 54			50 1⅓	52¼					
☽ — 31	10 14 41	19 56 40¼	31 14⅛	49 0½	41 22¼	+3 26½	29 68	65	174 41 7½	Dollond's Quadrant
	16 19			48 48	22					
	18 41			34⅓	21¼					
	20 0			27¾	21					
	21 54			18	20					
	24 21			3⅓	20					
	10 27 5	20 9 28	33 37⅛	47 49⅓	41 25	−2 15½	29 68	65	174 44 37½	Ramſden's Quadrant
	30 7			32½	23½					
	31 41			25⅓	22½					
	33 0			18¼	22					
	34 24			12	21½					
	36 37			01	21					

Obſervations at Queen Charlotte's Sound, Continued.

Lunar Obſervations for the Longitude.

1774.	Time by the Clock. H ′ ″	Apparent Time. H ′ ″	Zenith Diſt. of the ☉'s L. L. ° ′	True Altit. of the ☽'s Center. ° ′	Diſtance of the ☉ and ☽'s Limbs. ° ′	Error of the Quadrant. ′ ″	Barometer.	Thermometer.	Longitude. ° ′ ″	Remarks.
♂ Nov. 1.	13 51 59		27 42⅛		27 43					
	53 52		36¼		42½					
	55 12	23 28 41⅓	31½	48 17	42⅙	+3 30	29,38	71½	174 39 7½	Dollond's Quadrant.
	56 22		27½		42					
	57 27		24⅙		41¼					
	58 27		21¼		41					
	14 0 30		27 15¾		27 46⅙					
	1 46		12¼		46					
	2 51	23 37 0½	9¾	47 36⅙	45¾	−2 45	29,38	71½	174 41 15	Ramſden's Quadrant.
	3 41		7		45½					
	6 30		1		44¼					
	7 54		26 58		43¾					

The following Obſervations were made on board the Ship; the Place of the Obſervatory bearing S. by W. ½ W. by Compaſs, about Half a Mile Diſtant.

1774.	Time by the Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	True Altitude of the ☽'s Center. ° ′	Diſtance of the ☉ and ☽'s Limbs. ° ′	Error of the Quadrant. ′ ″	Barometer.	Thermometer.	Latitude. ° ′ ″	Remarks.
♂ Nov. 8.	8 21 56		41 22							
	21 24½		27							
	22 52		31½			−2 44	29,35	60		
	23 23		37							
	23 51		42							
	24 24		47½							
			True Altitude of the ☉'s Center.							
♀ —— 9.	16 30 11½				68 50½					
	30 48	4 52 50	23 32⅓	66 20¼	50¾	+3 5	29,65	62	174 35 15	Dollond's Quadrant. Cloudy.
	31 30½				50¾					
	32 10				51¼					
	16 36 56				68 53					
	37 27				53¼					
	38 24	4 59 49½	22 13⅙	66 18⅔	53½	+3 5	29,65	62	174 21 30	Dollond's Quadrant.
	38 45½				54					
	39 15				54¼					
	16 50 29				69 5					
	52 42				5½					
	53 47	5 15 57	19 12¼	65 50⅓	6¼	−2 29	29,65	62	173 35 45	Ramſden's Quadrant. Very cloudy.
	55 13				6¼					
	56 19				7					
	57 11				7¼					

Obfervations at Queen Charlotte's Sound, Continued

Obfervations for the Dip of the Magnetic Needle

1774	Face of the Inftrument Eaft ° ′	Face of the Inftrument Weft ° ′
♂ Nov 1	63 35	64 15
	64 15	66 45
	64 25	65 30
	65 15	65 25
Mean	64 22¼	65 28¾
Changed the Poles and altered the Balancing		
	64 0	63 30
	64 30	66 30
	64 25	63 30
	64 25	65 45
	64 20	65 25
	64 20	65 30
Mean	64 20	65 1[illegible]
Changed the Poles		
☿ —— 2	63 45	65 0
	63 15	65 45
☿ Nov 2	63 25	65 20
	63 0	64 45
Mean	63 21[illegible]	65 12½

1774	Face of the Inftrument Eaft ° ′	Face of the Inftrument Weft °
Changed the Poles		
	66 30	64 40
	66 30	64 55
	66 30	66 20
	64 25	66 30
	64 50	66 40
Mean	65 45	65 49
Altered the Balancing		
	64 40	64 10
	64 20	64 0
	64 20	64 0
	63 20	63 55
	63 45	64 05
	64 40	65 45
	65 45	66 0
Mean	64 24[illegible]	64 33¼

1774	Face of the Inftrument Eaft °	Face of the Inftrument Weft
Firft Mean	64 22¼	65 [illegible]
Second ditto	64 20	65 [illegible]
Third ditto	63 21¼	65 [illegible]
Fourth ditto	65 45	65 [illegible]
Fifth ditto	64 2[illegible]	64 [illegible]
Mean of all	64 26¾	65 [illegible]
Mean of all this year		64 [illegible]
Laft year		64 [illegible]
Firft year		64 [illegible]
Mr Bayley's Obfervations		64 [illegible]
The mean of all		64 [illegible]

N B It was the Needle s fouth en[illegible] that dipped here

Computations of the Rate which Mr Kendall's Watch went at

1774	Time of Apparent Noon by the Clock H ′	Time by the Clock when the Watch was compared H ′ ″	Time from Noon by the Clock	Clock gal on W t h fince Noo	Time from Noon by the Watch ′ ′	Time by the Watch when compared H ′ ″	Time of Apparent Noon by the Watch H ′ ′	Mean Time of Apparent Noon H ′	Watch too flow for Mean Time H	[illegible]
♄ Oct 22	13 47 14 28	13 51 15	4 0 7	0 58	4 0 14	11 39 0	11 34 59 86	23 44 38 72	12 9 38 [illegible]	
☉ —— 23	13 50 45 29	14 13 46[illegible]	23 1 21	3 33	22 57 88	11 58 0	11 35 2 12	23 44 30 30	9 28 [illegible]	[illegible]
☽ —— 24	13 54 19 11	14 5 13½	10 54 39	1 57	10 52 82	11 46 0	11 35 7,18	23 44 22 59	9 15 41	[illegible]
☿ —— 26	14 01 28 25	14 8 9½	6 41 25	0 96	6 40 29	11 42 0	11 35 19 71	23 44 09,25	8 49 54	[illegible]
♀ —— 28	14 08 42 29	14 16 7¼	7 25 21	1 07	7 24 14	11 43 0	11 35 35 86	23 43 58,92	8 23 0[illegible]	[illegible]
☽ —— 31	14 19 36 89	14 41 37½	22 0 61	3 17	21 57 44	11 58 0	11 36 2 56	23 43 49 42	7 4[illegible] 86	[illegible]
♃ Nov 3	14 30 37 10	14 40 0	9 22 90	1 35	9 21 55	11 46 0	11 36 38 45	3 43 47 10	7 8 [illegible]	[illegible]
♀ —— 4	14 34 18 45	14 33 26¼	0 52 20	0 13	0 52 07	11 36 0	11 36 52 07	23 43 47 92	6 55 85	[illegible]
♄ —— 5	14 38 00,41	14 38 54	0 53 51	0 13	0 53 38	11 38 0	11 37 06 62	23 43 49 56	6 42 04	[illegible]
								The mean gain is		[illegible]

By taking a mean of all the comparifons that can be formed out of thefe, the Watch s gain each day, on mean time w[illegible] come out 12 576

Observations made at Christmas Sound, in Terra del Fuego.

1774.	Equal Altitudes, Times by the Clock B. Lower Wire. ′ ″	Middle Wire. H ′ ″	Upper Wire. ′ ″	Zenith Distance. ° ′ ″	Time of apparent Noon by the Clock. H ′ ″	Phenomena and Remarks.	
♃ Dec. 22.	23 14	13 ——	——	61 0 0		⊙'s U. L.	Easterly: Very cloudy.
	——	——	——			⊙'s L. L.	
	——	13 42 51	45 55½	58 40 0		⊙'s U. L.	
	——	——	——			⊙'s L. L.	
	5 44½	14 8 52½	——	55 0 0		⊙'s U. L.	
	9 39	——	——			⊙'s L. L.	
	46 49	14 ——	——	49 20 0		⊙'s U. L.	
	——	——	——			⊙'s L. L.	
♀ —— 23.					18 19 14,14		
	——	——	——	49 20 0		⊙'s L. L.	Westerly: Cloudy.
	51 37	21 ——	——			⊙'s U. L.	
	——	22 ——	——	55 0 0		⊙'s L. L.	
	32 41½	22 39 34	——			⊙'s U. L.	
	——	——	——	58 40 0		⊙'s L. L.	
	——	22 55 39	52 34			⊙'s U. L.	
	——	——	——	61 0 0		⊙'s L. L.	
	15 14	13 ——	——			⊙'s U. L.	
	21 21	13 24 26	——	62 0 0		⊙'s U. L.	Easterly: Cloudy.
	25 14	28 19	——			⊙'s L. L.	
	52 01½	13 ——	——	57 40 0		⊙'s U. L.	
	——	——	——			⊙'s L. L.	
	——	——	9 51½	56 0 0		⊙'s U. L.	
	——	14 10 49½	——			⊙'s L. L.	
♄ —— 24.					18 24 18,83		
	——	22 37 44	——	56 0 0		⊙'s L. L.	Westerly: Very cloudy.
	——	——	38 34½			⊙'s U. L.	
	——	——	——	57 40 0		⊙'s L. L.	
	56 34	22 ——	——			⊙'s U. L.	
	23 22	23 20 17	——	62 0 0		⊙'s L. L.	
	27 16	24 9	——			⊙'s U. L.	
⊙ —— 25.	43 30½:	13 46 36	49 40½	60 20 0		⊙'s U. L.	Easterly: Cloudy.
	47 23½:	50 28	53 32			⊙'s L. L.	
	57 42:	14 0 52½	3 47½	58 20 0		⊙'s U. L.	
	1 30½	4 36	7 41			⊙'s L. L.	
	14 13½:	14 17 16	20 23	56 0 0		⊙'s U. L.	
	18 04	21 11	24 17			⊙'s L. L.	
	50 7½	14 53 19½	56 30½	51 0 0		⊙'s U. L.	
	54 8	57 21	0 34			⊙'s L. L.	
☽ —— 26.					18 34 22,91		
	14 35	22 11 18½	8 7	61 0 0		⊙'s L. L.	Westerly: Cloudy.
	18 43:	15 24½	12 6:			⊙'s U. L.	

Obſervations at Chriſtmas Sound, Continued

1774	Equal Altitudes Times by the Clock B			Zenith Diſtance	Time of apparent Noon by the Clock	Phenomena and Remarks
	Lower Wire	Middle Wire	Upper Wire			
		H			H	
☽ Dec 26	50 38½	22 47 32	—	56 0 0		☉ s L L
	54 37	51 27	48 22			☉ s U L
	7 11½	25 4 7	—	58 20 0		☉ s L L Weſterly
	—	8 0	—			☉'s U L Cloudy
	21 23	23 18 18	15 9½	60 20 0		☉ s L L
	25 16½	22 12	19 9½			☉ s U L

₊ The Clock was fixed up in the uſual manner, and the pendulum vibrated 1°¼ each way from the perpendicular

Meridian Zenith Diſtances of the Sun and Stars for the Latitude

1774	Zenith Diſtance Interior Arch	Exterior Arch		Exterior Arch reduced	Double Altitude of the ☉ s L L	Barometer	Therm	Remarks, &c
	° ′	G S V	+″	°				
♄ Dec. 24	61 27 52	65 2 9	9	61 28 28½				γ Orionis
	54 51 27	58 2 2	20	54 51 50				δ
	53 59 7	57 2 11	12	53 59 24½		29,63	45	ε
	53 15 57	56 3 9	12	53 16 20½				ζ
	62 41 5	66 3 15	23	62 41 39½				α
☽ — 26	32 13 52	34 1 17	7	32 14 9	115 34 35 115 33 27	29,56	49	☉ s L L Dollond's Quadrant, Ramſden's do
	61 27 20	65 2 7	24	61 27 51				γ Orionis
	54 50 55	58 2 1	20	54 51 24				δ
	53 58 27	57 2 10	5	53 58 51		29,64	43	ε
	53 15 33	56 3 8	9	53 15 51				ζ
	62 40 51	66 3 14	18	62 41 8½				α
♂ — 27	31 43 0	33 3 10	7	31 42 57	115 29 40	29,55	51½	☉'s U L

Obſervations at Chriſtmas Sound, Continued.

There being no convenient place within view of the Obſervatory, where I could fix up a proper mark for trying the line of collimation of the quadrant by, I took the following zenith diſtances of the ſummit of a diſtant mountain, and raiſed the ſtand of the quadrant juſt as much as its center was depreſſed by inverting it.

Quadrant direct. Interior Arch. ° ′ ″	Quadrant direct. Exterior Arch. G. S. V.	+″	Quadrant inverted and raiſed. Interior Arch. ° ′ ″	Quadrant inverted and raiſed. Exterior Arch. G. S. V.	+″
87 5 50	92 3 20	0	92 54 22	99 0 13	0
5 30	19	21	54 52	14	0
5 30	19	13	54 22	13	0
5 33	19	17	53 52	12	0
5 32	19	11	53 52	12	0
5 30	19	13	54 52	14	6
5 55	19	0	54 40	13	18
5 25	18	14	53 52	12	6
5 40	19	5	54 45	14	0
5 30	19	0	54 35	13	8
5 25	17	20	54 45	13	23

Zenith Diſtance of the Top of a more diſtant Hill.

88 40 56	94 2 11	23	91 19 0	97 1 19	22
41 1	12	8	19 0	20	21
41 3	12	3	18 50	19	31
40 43	11	21	18 50	20	0
40 40	11	25	18 50	20	0

The two firſt ſets make the error of the line of collimation —″⅓ for the interior, and —5″½ for the exterior arches of the Quadrant; and the two latter ſets make them +6″¾ and —1″¼ reſpectively: The means are +3″¼ and —3″½.

Computations of the Latitude.

1774.	Latitude by the Interior Arch. ° ′ ″	Latitude by the Exterior Arch. ° ′ ″	By Hadley's Quadrant. ° ′ ″
☽ Dec. 26.	Ramſden's Quadrant		55 21 39
	Dollond's ditto		55 21 6
♂ —— 27	Ramſden's ditto		55 21 25
	The mean is		55 21 23
	By the Sun.		
☽ —— 26.	55 22 17	55 22 27½	55 22 6½
♂ —— 27.	55 21 55½	55 21 46	
	By γ Orionis.		
♄ —— 24.	55 22 4	55 22 34	55 22 2
☽ —— 26.	55 21 33	55 21 57	
	By δ Orionis.		
♄ —— 24.	55 21 53	55 22 9	55 21 47
☽ —— 26.	55 21 22	55 21 44	
	By ε Orionis.		
♄ —— 24.	55 22 19	55 22 29	55 22 6
☽ —— 26.	55 21 39	55 21 57	
	By ζ Orionis.		
♄ —— 24.	55 22 0½	55 22 17	55 21 56
☽ —— 26.	55 21 37	55 21 48	
	By α Orionis.		
♄ —— 24.	55 22 16	55 22 44	55 22 19½
☽ —— 26.	55 22 4	55 22 13½	
	Mean of all		55 21 57 S.

Obſervations at Chriſtmas Sound, Continued

Computations of the Clock's Rate of going

1774	Time of apparent Noon by the Clock	Syderial Time of apparent Noon	Clock too faſt for Syderial Time	Clock gains on Syderial Time
	H	H ″		′ ″
♀ Dec 23	18 19 14 14	18 4 24,7	14 49,44	
♄ —— 24	24 18 83	8 51,4	15 27,43	0 37,99
☽ —— 26	34 22,91	17 44,55	16 38,36	0 35,47
				0 36,73

If the difference between the firſt and laſt Obſervations be taken, and divided by 3, the number of days between, the Clock again each day, on Syderial Time will be only 36″31 Mr Kendall's Watch appeared to be gaining, when here, at the rate of 12″,377 in 24h on mean time

Lunar Obſervations for the Longitude of the Place

1774	Time by the Clock	Apparent Time	True Zenith Diſtance of ☼'s center	Zenith Diſtance of ☽'s U L	Diſtance of the ☼ and ☽'s Limbs	Error of the Quadrant	Barom	Thermom	Longitude Eaſt	Remarks
	H ′ ″	H ′ ″	° ′	° ′	° ′	′ ″			° ′ ″	
☽ Dec 26	11 50 10	17 17 44	76 39⅛	56 39⅛	87 1¼	+4 1	29,64	46	289 55 0	Dollond's Quad Hazy
	51 51			35⅝	87 0¼					
	53 16			31⅜	87 0					
	54 26			29	86 59¾					
	55 25			26¼	59					
	56 29			23¼	59					
	57 42			20	58¼					
	58 26			18	58					
	59 25			16¼	57¾					
	12 0 25			13⅝	57					
	12 3 16	17 29 32	75 2⅛	56 8	87 0¾	+1 0	29,64	46	290 27 45	Ramſden's Quad Hazy
	4 29			5¼	87 0					
	5 19			4	87 0					
	6 14			2	86 59¼					
	7 10			56 0	59					
	8 5			55 58	59					
	9 4			56	58¼					
	9 52			54	58¼					
	10 42			52¼	58					
	11 51			50	57¼					

Obſervations at Chriſtmas Sound, Continued.

Lunar Obſervations for the Longitude of the Place.

1774.	Time by the Clock. H ′ ″	Apparent Time. H ′ ″	True Zenith Diſtance of ☉'s center. ° ′	Zenith Diſtance of ☽'s U. L. ° ′	Diſtance of the ☉ and ☽'s Limbs. ° ′	Error of the Quadrant. ′ ″	Barom.	Thermom.	Longitude Eaſt. ° ′ ″	Remarks.
☽ Dec. 26.	13 29 49	18 53 39	63 25	55 38½	86 30	+1 0	29,60	47	290 43 30	Ramſden's Quad.
	31 14			40½	29½					
	32 12			42	29¼					
	32 56			43½	29					
	34 3			45¼	28⅚					
	13 36 38	19 0 15	62 29	55 49½	86 22⅓	+4 2	29,60	47	289 43 0	Dollond's Quad.
	37 29			51	22¼					
	38 18½			52⅔	22					
	39 4			54	21¾					
	39 46			55⅚	21¼					
	40 35			56¾	21					

The mean reſult of theſe four is 290° 16′ 25″. The mean of ten Obſervations taken before we arrived here, and reduced to the place by Mr. Kendall's Watch, gave the Longitude of the Obſervatory 289° 52′ 52″; ſeven taken after leaving the place gave 289° 42′ 12″: the mean of the three is 289° 57′ 9″½ E.

Observations at Christmas Sound, Continued

Observed Azimuths of the Sun's Center for the Variation of the Compass

1774	Zenith Distance of the ☉'s U. L.	Azimuth of the ☉'s center	Variation East	1774	Zenith Distance of the ☉ U. L.	Azimuth of the ☉'s center	Variation East
	Gregory's Compass				Knight's Compass		
♀ Dec. 23	62 11⅙	S 67 15 W		☉ Dec. 25	63 36½	N 68 35 E	
	62 20½	66 10			63 30¾	68 45	24 2
	62 25½	68 45			63 21¾	68 50	
	62 31½	65 15	20 59		62 32½	N 68 25 E	
	62 45	63 45			62 24¼	68 0	24 13
	63 39	64 20			62 19	67 55	
	64 3	69 35		☽ —— 26	70 5	N 80 15 E	
	Knight's Compass				69 53	80 0	
♄ —— 24	64 27¾	S 61 50 W			69 40	79 55	
	64 44	60 30			69 38	79 30	22 51
	64 50	59 55			69 30	79 15	
	65 1½	59 45	23 54		69 25	79 5	
	65 9½	59 45			Gregory's Compass		
	65 17⅙	59 25			68 35	N 73 55 E	
	Gregory's Compass				68 21	75 50	
	65 38	S 57 20 W			68 15	76 5	
	65 43½	54 20			68 3½	77 0	25 23
	65 56½	56 10	27 17		67 52¼	76 50	
	66 11	54 35			67 46	72 0	

The disagreement which is found amongst these variations is not to be attributed to any mistake in the Observations, for the Compasses, and especially that of Gregory's, would, while here, point frequently five, six, and sometimes even eight and 10 degrees different when directed to the same object. I cannot assign any reason for this strange circumstance; the Compasses performed well enough both before and after leaving the place.

Observations for the Dip of the Needle's South End

1774	Face of the Instrument East	Face of the Instrument West	1774	Face of the Instrument East	Face of the Instrument West	1774	Face of the Instrument East	Face of the Instrument West
♃ Dec. 22	66 20	68 0	♀ Dec. 23	Altered the Balance		♀ Dec. 23	Changed the Poles	
	66 50	67 0		65 0	66 15		67 50	67 30
	Changed the Poles			65 35	65 50		67 45	66 55
	68 25	67 0		65 25	66 05		67 20	67 0
	68 40	66 55		Changed the Poles			Changed the Poles	
	67 0	66 45		67 10	66 15		65 40	66 20
	69 10	66 30		67 35	67 15		67 15	66 50
				66 40	67 15		66 25	66 45

The mean of all is 66 56

Obſervations at Chriſtmas Sound, Continued.

Obſervations on the Tides.

1774.	Time by the Clock. H ′	Apparent Time. H ′	Height of the Water. F. I.	Remarks, &c.
♃ Dec. 22.			0 6¼	Low Water.
	23 15		1 10	
	23 32		2 0	
	0 30¼	6 15½	2 4½	High Water.
	1 16		2 0	
	1 40		1 10	
	10 40		3 4	
	10 56		3 7	
	11 14½	17 26¼	3 8½	High Water.
	11 30		3 7	
	12 8		3 4	
	The mark was diſturbed by the boats.			
♀ — 23.			0 5	Low Water.
	22 36		1 9	
	23 43		2 4	
	0 2		2 5½	
	0 13		2 6½	
	1 37¾	7 17½	2 8½	High Water.
	3 2		2 6½	
	3 15		2 5¼	
	3 31		2 4	
	11 15		3 8½	
	11 40		3 9	
	12 19¾	17 56¼	3 10	High Water.
	13 7		3 9	
	13 12		3 8½	
	15 53		2 3	
	16 28		1 11	
	16 42		1 7½	
♄ — 24.	19 47¾	1 23$\frac{7}{12}$	0 5½	Low Water.
	22 50		1 7½	
	23 15		1 11	
♄ Dec. 24.	23 38		2 3	
			3 3	High Water, Evening
			4 4½	Ditto, Morning.
☉ — 25.			1 3½	Low Water.
			4 1	High Water, Evening.
	The mark was again diſturbed by the boats.			
	18 14		2 4½	
	18 33		2 2	
☽ — 26.	18 50		1 11½	
	19 4		1 10	
	19 20		1 9	
	21 20½	2 45½	1 2	Low Water.
	23 28		1 9	
	23 40		1 10	
	23 50		1 11½	
	0 6		2 2	
	0 20		2 4½	
	2 40		3 5	
	2 56		3 6	
	3 51½	9 15	3 9	High Water.
	4 45		3 6	
	5 5		3 5	
	12 15		3 0	
	12 30		3 1½	
	12 45		3 2½	
	13 20		3 4½	
	15 8½	21 29½	3 10½	High Water.
	17 7		3 4½	
	17 30		3 2½	
	17 40		3 1½	
	18 0		3 0	
♂ — 27.			1 2½	Low Water.

From theſe Obſervations, it appears that the Moon paſſes the meridian about 2½ hours before it is high water at this place: Mean height of the morning tides, three feet $1\frac{1}{12}$ inches, the Moon being then above the horizon; the mean evening tide was two feet ſeven inches.

Obſervations made at the Cape of Good Hope

1775	Equal Altitudes Times by the Clock B: Lower Wire ′ ″	Middle Wire H ′ ″	Upper Wire ′ ″	Zenith Diſtance ° ′ ″	Azimuth of ☉'s center from the North at the times of equal Altitudes: Lower Wire ° ′	Middle Wire	Upper Wire	Time of apparent Noon by the Clock H ′ ″	Phenomena and Remarks
♃ March 23	2 6½	17 4 19¼	6 31½	71 40 0					☉'s U L
	4 51½	7 2	9 13½						☉'s L L Eaſterly
	29 5¼	17 31 17	33 31½	66 20 0					☉'s U L
	31 49	34 4½	36 17½						☉'s L L
♀ — 24									
	34 16½	1 32 2½		66 20 0				21 33 15,73	☉'s L L
	37 2½	34 49	32 36¼						☉'s U L Weſterly
	1 13	1 59 2½	56 53	71 40 0					☉'s L L
	3 57½	2 1 46½	59 36						☉'s U L
	34 54	17 37 10½	39 23½	66 0 0					☉'s U L Eaſterly
	37 41½	39 57¾	42 10½						☉'s L L
♄ — 25									
	34 17½	1 32 2		66 0 0				21 36 12,22	☉'s L L Weſterly
		34 49	32 35½						☉'s U L
	54 42½	17 56 58	59 15½	63 0 0					☉'s U L Eaſterly
	57 31½	59 49½	2 8						☉'s L L Very hazy
☉ — 26									
	20 19	1 18 1½		63 0 0				21 39 7,95	☉'s L L Weſterly;
	23 10½	20 53	18 36½						☉'s U L Cloudy
	In the morning I found the Clock had ſtopped; occaſioned by the thickneſs of a new glaſs which I had got put before its face the old one being broke in taking down the Clock at Otaheite								
	39 20½	20 41 39½	43 56½	63 0 0					☉'s U L Eaſterly
	42 13	14 31½	46 49½						☉'s L L
	51 44½	20 54 5½		60 40 0					☉'s U L
	54 39½	57 0½							☉'s L L
☽ — 27									
	49 55½	3 47 32	45 12	60 40 0				0 22 28 6	☉'s L L Weſterly
		50 28½							☉'s U L
	2 19½	4 0 1½	57 43½	63 0 0					☉'s L L
	5 12		0 36						☉'s U L
	40 6½	20 42 24	44 41½	63 40 0					☉'s U L Eaſterly
		45 15½	47 33						☉'s L L
	50 42	20	55 21½	61 40 0					☉'s U L
	53 35½	55 55½	58 16						☉'s L L
♂ — 28									
	56 48½	3 54 30½	52 8½	61 40 0				0 25 24,71	☉'s L L Weſterly
	59 42½	57 23½	55 5½						☉'s U L
	7 26½	4 5 8		63 40 0					☉'s L L
	10 18½	8 0½	5 43½						☉'s U L
	55 59½	20 57 21	59 41½	61 40 0					☉'s U L Eaſterly
	57 54½	21 0 16	2 37						☉'s L L
☿ — 29									
	58 19½	3 55 58½	53 37½	61 40 0				0 28 19,36	☉'s L L Weſterly
	1 14½	58 53½	56 34½						☉'s U L
	38 ½	20 40 21	42 38	63 40 0					☉'s U L Eaſterly,
	40 54	43 13	45 30½						☉'s L L
♃ — 30									
	21 8½	4 18 51	16 33	65 40 0				0 31 14 19	☉'s L L Weſterly
	24 0½	21 42	19 26						☉'s U L
	35 21	20 37 37½	39 5½	67 0 0					☉'s U L Eaſterly
	38 8	40 26½	42 42½						☉'s L L
♀ — 31								0 34 10,68	

Obſervations at the Cape of Good Hope, Continued.

1775.	Equal Altitudes. Times by the Clock B. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Diſtance.	Azimuth of ☉'s center from the North, at the times of equal Altitudes. Lower Wire.	Middle Wire.	Upper Wire.	Time of apparent Noon by the Clock.	Phenomena and Remarks.
	′ ″	H ′ ″	′ ″	° ′ ″	° ′	° ′	° ′	H ′ ″	
♀ March 31.	29 46¼	4 27 29½	25 13	67 0 0					☉'s L. L. Weſterly.
	32 36	30 19:	28 4						☉'s U. L.
		20 43 32½	45 49¼	66 40 0					☉'s U. L. Eaſterly.
	44 4¼	46 21½	48 41						☉'s L. L.
♄ April 1.								0 37 5,75	
	29 40½	4 27 22½	25 5½	66 40 0					☉'s L. L. Weſterly.
	32 31	30 17	27 57½						☉'s U. L.
	31 32½	20 33 48½		69 20 0					☉'s U. L. Eaſterly.
	34 21½	36 38	38 54						☉'s L. L.
	45 27½	20 47 45½	50 2½	66 40 0					☉'s U. L.
	48 18½	50 37:	52 56						☉'s L. L.
☉ — 2.								0 40 0,27	
	31 16	4 28 57½	26 40	66 40 0					☉'s L. L. Weſterly.
	34 8½	31 50	29 32½						☉'s U. L.
		4 42 58	40 41½	69 20 0					☉'s L. L.
	48 2½	45 46	43 32½						☉'s U. L.
♂ — 4.	6 12½	21 8 55	11 35½	54 40 0					☉'s U. L. Eaſterly.
	9 32½	12 16	14 58½						☉'s L. L.
☿ — 5.								0 48 46,31	
	27 57	3 24 52½	22 9	54 40 0					☉'s L. L. Weſterly.
	30 58	28 16	25 34			89 10	88 30		☉'s U. L.
	43 0½	20 45 17½	47 34	70 20 0	89 0	88 25	87 45		☉'s U. L. Eaſterly.
	45 49½	48 6½	50 24½		86 20	86 45	86 15		☉'s L. L.
	57 3½	20 59 23½	1 43	67 40 0	86 45	86 15	85 55		☉'s U. L.
	59 56	21 2 17½	4 36½						☉'s L. L.
♃ — 6.					Var.	21 32¼	Weſt.	0 51 40,5	
	42 57½	4 40 38½		67 40 0	43 30	42 30			☉'s L. L. Weſterly.
	45 52	43 31½	41 12½		43 50	43 35	42 30		☉'s U. L.
	57 6½	4 54 46½	52 31	70 20 0	45 55	45 40	45 5		☉'s L. L.
	59 56	57 39½	55 21			46 0	45 50		☉'s U. L.
	55 54½	20 58 1[illegible]½	0 35:	68 40 0					☉'s U. L. Eaſterly.
	58 49½	21 1 8½	3 28½						☉'s L. L.
	10 14½	21 12 36½	14 57½	66 0 0					☉'s U. L.
	13 8½	15 32½							☉'s L. L.
♀ — 7.								0 54 37,38	
	35 41	4 33 18	30 56	66 0 0					☉'s L. L. Weſterly.
	38 36½	36 15	33 53½						☉'s U. L.
	49 57½	4 47 40½	45 21	68 40 0					☉'s L. L.
		50 32	48 14½						☉'s U. L.
♄ — 8.	55 37	20 57 55	0 12½	70 20 0					☉'s U. L. Eaſterly.
	58 27	21 0 45	3 4½						☉'s L. L.
	9 40:	21 12 11½	14 32	67 40 0					☉'s U. L.
	12 44½	15 7½	17 27½						☉'s L. L.
☉ — 9.								1 0 32,08	
	47 54½	4 45 33½	43 11½	67 40 0					☉'s L. L. Weſterly.
	50 52½	48 28½	46 8½						☉'s U. L.
	2 11	4 59 5[illegible]½	57 32	70 20 0					☉'s L. L.
	5 1½	5 2 43	0 24½						☉'s U. L.
	6 54	21 9 16½	11 35½	69 0 0					☉'s U. L. Eaſterly.
	9 48½	12 10½	14 31:						☉'s L. L.
☽ — 10.								1 3 29,16	
	56 43	4 54 22½	52 2½	69 0 0					☉'s L. L. Weſterly.
	59 38	57 17	54 57						☉'s U. L.

Obſervations at the Cape of Good Hope, Continued

1775	Equal Altitudes Times by the Clock B: Lower Wire	Middle Wire	Upper Wire	Zenith Diſtance	Azimuth of the ☉'s Center from the North at the Times of equal Altitud: Lower Wire	Middle Wire	Upper Wire	Time of Apparent Noon by the Clock	Phenomena and Remarks	
	′ ″	H ′ ″	′ ″	° ′ ″	° ′	°	°	H ′ ″		
☿ April 12	17 54¼	21 20 20	22 42	69 20 0					☉'s U L	Eaſterly
	20 53	23 15½	25 39						☉'s L L	
	32 54¼	21 35 0	37 25½	66 40 0					☉'s U L	
	35 33½	38 0½	—						☉'s L L	
♃ — 13								1 12 29,72		
	49 1½	4 46 35	44 7½	66 40 0					☉'s L L	Weſterly
	52 1	49 35	47 10						☉'s U L	
	3 39	5 1 18	58 55½	69 20 0					☉'s L L	
	6 36¼	4 12¼	1 51¼						☉'s U L	
♀ — 14	21 8¼	21 23 30¼	—	70 20 0					☉'s U L	Eaſterly
♄ — 15	24 3½	26 26½	28 49½						☉'s L L	
								1 18 29 49		
	12 30½	5 10 7¼	7 45	70 20 0					☉'s L L	Weſterly
	15 24	13 3	10 42						☉'s U L	
	The Clock ſtopped again to day for a few ſeconds by the glaſs preſſing againſt the minute hand									
☉ — 16	37 15½	22 40 4	42 52½	58 40 0					☉'s U L	Eaſterly
☽ — 17	40 43	43 33½	—						☉'s L L	
								1 23 54,4		
	6 41½	4 3 51½	1 1½	58 40 0					☉'s L L	Weſterly
	10 9½	7 21	4 33½						☉'s U L	
	24 4½	23 27 31½	30 58	52 40 0					☉'s U L	Eaſterly
♂ — 18	28 18¼	31 47½	35 17½						☉'s L L	
								1 26 54,84		
	—	3 21 37	18 7	52 40 0					☉'s L L	Weſterly
	—	25 58	32 29						☉'s U L	
	39 32½	21 —	44 21	70 0 0					☉'s U L	Eaſterly
	42 30	21 44 56	47 21						☉'s L L	
	52 35	21 55 4¼	57 31	67 40 0					☉'s U L	
☿ — 19	55 40	—	0 16						☉'s L L	
								1 29 58 52		
	3 53	5 1 [illegible]	58 55	67 40 0					☉'s L L	Weſterly
	6 59¼	4 27½	2 1						☉'s U L	
	17 1	5 14 35	12 11	70 0 0					☉'s L L	
	20 2½	17 35½	15 11½						☉'s U L	
	55 4	21 57 34¼	0 3	68 0 0					☉'s U L	Eaſterly
♃ — 20	58 7½	22 0 38	3 6						☉'s L L	
								1 32 59,05		
	—	5 4 56	2 29	68 0 0					☉'s L L	Weſterly
	10 29	7 57½	5 33						☉'s U L	
♄ — 22	6 17¼	22 8 48¼	11 18	68 20 0					☉'s U L	Eaſterly
☉ — 23	9 22	11 53½	14 24½						☉'s L L	
								1 42 6,37		
	14 26	5 11 54¼	—	68 20 0					☉'s L L	Weſterly
	17 32½	15 11	12 31						☉'s U L	

The Clock was fixed up in the uſual manner

The pendulum vibrated 1°½ each way from the perpendicular, until April 9, after which its vibrations were 1°½ each way until it was taken down

Obfervations at the Cape of Good Hope, Continued.

Obferved Times of the tranfits of the Sun, Moon, and Stars, over the Meridian.

1775.	Times by the Clock B. First Wire. ′ ″	Second Wire. ′ ″	Middle Wire. H ′ ″	Fourth Wire. ′ ″	Fifth Wire. ′ ″	Phenomena.
☉ March 26.	33 23¼	34 5¼	21 34 48	35 31		☉'s 1ft Limb.
		36 14	36 56¼	37 39½	38 21¾	☉'s 2d Limb.
	Moved the ftand of the Inftrument a fmall matter, fo as to carry it to the weftward, and fixed it very firmly.					
☽ —— 27.	20 9½	20 51½	0 21 34½	22 17¼	——	☉'s 1ft Limb.
	——	23 0½	0 23 43	24 26¼	25 8¾	☉'s 2d Limb.
	Moved the Inftrument, by means of the fcrew, to the eaftward.					
	31 54½	32 38	6 33 23	34 7¼	34 51	Syrius.
	24 17	24 59¼	7 25 42	26 25	27 7	Procyon.
♂ —— 28.	23 1¼	23 43	0 24 25¾	25 9		☉'s 1ft Limb.
		25 52¼	0 26 34¾	27 17¼	27 59½	☉'s 2d Limb.
	59 48½	0 31¼	5 1 14	1 58	2 39¼	Rigel.
	39 5½	39 47¾	5 40 29¾	41 14½	41 55¼	α Orionis.
	31 12½	31 56¼	6 32 41	33 26	34 9	Syrius.
	16 4½	16 54	7 17 44	18 35¼	19 24½	Caftor.
	23 34	24 16½	7 24 59	25 42½	26 24½	Procyon.
	27 26	28 13½	7 29 1¾	29 51	30 38½	Pollux.
		36 12	19 36 55	37 38¼		α Aquilæ.
	52 54½	53 38	22 54 21¼	55 6½	55 48½	☽'s 2d Limb.
☿ —— 29.		26 37¾	0 27 20			☉'s 1ft L. } Capt. Cook
			0 29 29½	30 12½		☉'s 2d L. }
	59 5¼	59 48	5 0 31	1 14¾	1 56¼	Rigel.
		39 4½	5 39 47½	40 31		α Orionis.
	30 29¾	31 13¼	6 31 58	32 42½	33 26	Syrius.
			19 36 11			α Aquilæ; cloudy.
♃ —— 30.	28 50½	29 32	0 30 14½	30 58½		☉'s 1ft L. } Cloudy.
		31 41¼	0 32 24¼	33 7½	33 48¾	☉'s 2d L. }
	37 38½	38 21¼	5 39 4	39 47	40 29	α Orionis.
	29 46¼	30 30	6 31 14¾	31 59¼	32 42½	Syrius.
	Moved the Inftrument a little more to the eaftward, by means of the horizontal fcrew.					
♀ —— 31.	31 43¼	32 24¾	0 23 8	33 51	34 33	☉'s 1ft Limb.
	33 52	34 33¼	0 35 17	36 0¼	36 42½	☉'s 2d Limb.
♄ April 1.	34 38½	35 21	0 36 3¼	36 47	37 28¼	☉'s 1ft Limb.
	36 47½	37 30	0 38 13	38 56	39 37½	☉'s 2d Limb.
	13 8	13 57	7 14 47¾	15 39	16 28	Caftor.
	20 39½	21 22½	7 22 4½	22 48	23 29½	Procyon.
			7 26 5¼			Pollux.
	9 37	10 19½	9 11 2¾	11 46	12 27¼	α Hydra.
		50 9	9 50 52¾	51 37		Regulus.

Obſervations at the Cape of Good Hope, Continued

Obſerved Times of the Tranſits of the Sun, Moon, and Stars over the Meridian

1775	Times by the Clock B: First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	Phenomena
	′ ″	″	H ′ ″	″		
☉ April 2	37 32¾	38 15	0 38 57¾	39 41		☉'s 1ſt Limb
		40 24½	0 41 7¼	41 50¼	42 31¾	☉'s 2d Limb
	27 52¾	28 36	2 29 20¼	30 5	30 48¼	☽'s 1ſt Limb
	15 28½	16 12½	4 16 56½	17 41	18 24¼	Aldebaran
		56 54	4 57 36¾	58 20		Rigel
	35 27	36 9¾	5 36 52¼	37 36	38 17½	α Orionis
	27 36	28 19½	6 29 4	29 48¾	30 32¼	Syrius
	12 23½	13 12½	7 14 3½	14 54½	15 43¼	Caſtor
	19 55¾	20 37¾	7 21 20¼	22 3½	22 45	Procyon
		24 33	7 25 21¼	26 10¼		Pollux
☽ —— 3	40 28½	41 10	0 41 53	42 36¼		☉'s 1ſt L } Cloudy
		43 19	44 2¼	44 45¼	45 25¼	☉'s 2d L
♂ —— 4	43 23½	44 6	0 44 48¾	45 31½		☉'s 1ſt L } Cloudy
		46 15¼	0 46 58½	47 41½	48 23¾	☉'s 2d L
☿ —— 5	46 19½	47 1¼	0 47 44	48 27¼		☉'s 1ſt L } Cloudy
		49 11	0 49 53½	50 36¾	51 18¾	☉'s 2d L
	13 19½	14 3	4 14 47¾	15 32¼	16 15¼	Aldebaran
	54 2½	54 44¾	4 55 27½	56 11¼	56 53	Rigel
	5 41¾	6 27	5 7 13	7 59½	8 44	☽'s 1ſt Limb
	33 17¾	34 0¼	5 34 44	35 20¼	36 8¼	α Orionis
	25 27	26 11	6 26 55½	27 40	28 23	Syrius
	10 13¾	11 3½	7 11 54	12 44½	13 34	Caſtor
	17 46	18 28¼	7 19 11	19 54¾	20 36	Procyon
		22 23½	7 23 12	24 1¼		Pollux
♃ —— 6	49 14½	49 56½	0 50 39	51 39		☉'s 1ſt Limb
		52 5¾	52 48½	53 32¼	54 13¼	☉'s 2d L.
	12 36¾	13 19½	4 14 3¾	14 48¼	15 31¼	Aldebaran
	32 34	33 15¾	5 33 59½	34 43	35 25¼	α Orionis
	57 43¾	58 29	5 59 15¼	0 2½	0 46½	☽'s 1ſt Limb
		25 27¼	6 26 11¾	26 57		Syrius
	9 29¾	10 19¼	7 11 9¾	12 1	12 50	Caſtor

On examining the Tranſit Inſtrument this morning, I found that the level ſhewed the weſt end to be a ſmall matter the higheſt. Adjuſted it, and moved the Inſtrument a little more to the eaſtward, as well to be nearer the plane of the Meridian, as to make the middle wire coincide with the ſharp edge of a cliff in the Table Mountain, which being ſeen againſt the ſky, formed a much better Meridian Mark than what I had before.

1775	First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	Phenomena
♀ —— 7			0 53 33¾	54 16¼	54 59	☉'s 1ſt L. } Cloudy
	54 18	55 0½	0 55 42¾			☉'s 2d L.
♃ —— 8	52 34¾	53 17¼	4 54 0¼	54 43¼	55 25¾	Rigel
		0 52¾	5 1 40¾	2 29¾		β Tauri

Obſervations at the Cape of Good Hope, Continued

Obſerved Times of the Tranſits of the Sun, Moon, and Stars, over the Meridian

1775	Times by the Clock B — Firſt Wire ′ ″	Second Wire ′ ″	Middle Wire H ′ ″	Fourth Wire ′ ″	Fifth Wire ′ ″	Phenomena, &c
♄ April 8	31 8¾	31 51	5 32 34	33 17½	33 59	α Orionis
	8 4½	8 54½	7 9 44¾	10 36	11 25	Caſtor } Captain Cook
	15 37	16 19¼	7 17 2¼	17 45	18 27	Procyon } Captain Cook
	19 27	20 14½	7 21 3½	21 52½	22 39½	Pollux
		36 38½	7 37 23½	38 9½		Supoſed α Cancri
	39 53	40 38¼	7 41 24½	42 11½	42 55½	☽'s 1ſt Limb
	46 22¼	47 6	7 47 50	48 34½	49 17½	ζ Cancri
	4 35	5 17¼	9 ——	6 44	7 26	α Hydræ
	44 23½	45 6	9 45 50	46 34½	47 17	Regulus
	At 11 h 37′ 36″½ by the clock, ζ Cancri immerged behind the Moon's dark Limb. It was very hazy; but the Obſervation may, I think, be depended on. The moon ſet behind the high lands to the weſtward, before the emerſion					
☉ —— 9	58 9¾	58 45¼	0 59 28½	0 11¼		☉'s 1ſt Limb
		0 55	1 1 38½	2 22	3 3½	☉'s 2d Limb
	14 55½	15 37½	7 16 20½	17 4	17 45½	Procyon
	18 45	19 32½	7 ‑0 21	21 10½	21 57¾	Pollux
	29 46½	30 31	8 31 16½	32 2½	32 46½	☽'s 1ſt Limb
			8 33 47½			2d α Cancri
	At 9 h 14′ 57″½ 2da ad α Cancri immerged behind the ☽. It was hazy, and ſtrong wind, which ſhook the Teleſcope much; but I think the Obſervation pretty good. I could not ſee the emerſion					
☽ —— 10	43 41¼	44 21¼	9 45 8¼	45 52½	46 35	Regulus
	1 0	1 42½	1 2 25⅞	3 9½		☉'s 1ſt Limb
		3 52½	4 35½	5 19½	6 1	☉'s 2d Limb
	14 12¾	14 55	7 15 38	16 21½	17 3½	Procyon
		15 33¼	7 16 16⅟	17 0		Small ✱ following Procyon
	18 1	18 49	7 19 38	20 27	21 14½	Pollux
		3 53½	9 4 36	5 19½		α Hydræ
		16 28	9 17 11⅓	17 55⅓		α Leonis
	18 53½	19 37	9 20 21⅞	21 7½	21 51	☽'s 1ſt Limb
	4 59	43 41¾	9 44 25⅓	45 9½	45 52½	Regulus
		24 49½	11 25 35	26 20		β Leonis
♂ —— 11			7 7 33⅓			Caſtor
	13 32	14 14	7 14 56⅓	——	16 22	Procyon
☿ —— 12	6 57¾	7 40	1 8 23¾	9 7½		☉'s 1ſt Limb
		9 52	1 10 33⅓	Cloudy		☉'s 2d Limb
	1 50	2 32½	9 3 15¼	3 59½	4 40¾	α Hydræ Cloudy
	55 57	56 40	10 57 24½	58 8	58 50	☽'s 1ſt L Exceeding foggy and cloudy
♃	In the morning I found that the Tranſit Inſtrument deviated from the mark about the breadth of the wire. Re adjuſted it					

Observations at the Cape of Good Hope, Continued

Observed Times of the Transits of the Sun, Moon, and Stars, over the Meridian

1775	Times by the Clock B — First Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	Phenomena, &c
	′ ″		H ′ ″			
♃ April 13	9 59¼	10 41	1 11 24¼			☉'s 1st Limb
			13 34¾	14 18	15 0½	☉'s 2d Limb
			6 21 21			Syrius
		5 28½	7 6 18¼	7 9¼		Castor
		12 54	7 13 37	14 20½		Procyon
			7 17 37¼			Pollux
	1 10¼	1 52¼	9 2 35½	3 19	4 1	α Hydræ
			11 24 58¼			β Virginis
	44 44¼	45 26½	11 46 11	46 55	47 37	☽'s 1st Limb Foggy
	57 53½		12 59 10¾	0 4	0 45½	Spica ♍ Very foggy
♀ —— 14	12 59	13 41¼	1 14 23			☉'s 1st Limb
			16 34¾	17 18¼	18 0¼	☉'s 2d Limb
	3 58¼	4 47½	7 5 36¼	6 29½	7 18½	Castor
		12 14	7 12 56½	13 40		Procyon
			7 16 56¼			Pollux
		1 12	9 1 56½	2 39		α Hydræ
	22 53¼	23 36	11 24 18¼	25 2	25 43½	β Virginis
			12 36 50			ι Virginis
♄ —— 15	57 14	57 56¼	12 58 39½	59 23	0 16	Spica Virginis
		16 42½	1 17 25¼	18 9¼		☉'s 1st Limb
		18 52¾	19 36	20 19½		☉'s 2d Limb
	3 18	4 7¼	7 4 58	5 49	6 38	Castor
			7 12 16¼			Procyon
			9 1 15			α Hydræ
	56 33¼	57 15	12 57 59¼	58 43½	59 25½	Spica Virginis
	25 33	26 16¼	13 27 0	27 41		☽'s 1st L. 2h 18 past the 8
		28 26¾	29 10½	29 55	30 37	☽'s 2d Limb
	48 30	49 14	13 49 59½	50 45½	51 30	Arcturus
		Clock stopped near a minute				
☉ —— 16	18 22⅞	19 5¼	1 19 48½			☉'s 1st Limb
			21 58	22 42½	23 24½	☉'s 2d Limb
☽ —— 17	21 23⅞	22 6	1 22 49¼	23 24		☉'s 1st Limb
		24 16	24 59¾	25 43	26 26	☉'s 2d Limb
♂ —— 18	Clouds	6 57	15 5 45	8 23¼	Clouds	α Cor Bor
		1 25½	7 2 20	3 11		Castor
		8 5½	7 9 37½	10 20½		Procyon
			7 13 38¼			Pollux
	36 58½	37 41	9 38 25	39 9½	39 57	Regulus
	45 58	56 44¾	15 57 32½	38 20½	59 6½	Antares
		58 43	15 59 30¼	0 18¼		Small * following Antares
	2 13½	3 0	16 3 48½	4 37	5 24	τ Scorpii

Observations at the Cape of Good Hope, Continued.

Observed Times of the Transits of the Sun, Moon and Stars over the Meridian.

1775.	Times by the Clock B. First Wire. ′ ″	Second Wire. ′ ″	Middle Wire. H ′ ″	Fourth Wire. ′ ″	Fifth Wire. ′ ″	Phenomena, &c.
♂ April 18.	14 1	14 46:	16 15 32½	16 17½	Clouds.	☽'s 2d Limb.
	4 54¾	5 36½	17 6 21½	7 5½	7 48	α Ophiuchi.
☿ —— 19.	27 27¾	28 10	1 28 53¾			☉'s 1st Limb.
			31 4⅛	31 48¼	32 30⅝	☉'s 2d Limb.
	59 58	0 47¼	7 1 38½	2 29	3 18⅓	Castor.
	7 31½	8 14:	7 8 56¼	9 40	10 22	Procyon.
	11 20	12 8½	7 12 56½	13 45¾	14 33	Pollux.
	4 12½	4 55¼	17 5 39	6 23¼	7 6	α Ophiuchi.
	8 9:	8 50½	17 9 33⅛	10 16⅛	10 58	†
	14 8¾	14 54¼	17 15 40⅛	16 27	17 12	☽'s 2d Limb.
		26 4¼	17 26 48¾	27 34		These three Stars are in the telescope together, and nearly in the same parallel of declination; the middle one is (I believe) the 394th in La Caille's Catalogue.
	27 59¾	28 43½	17 29 28	30 13		
		31 40¼	17 32 25	33 10		
		8 2	18 8 56⅓	9 52		Small * preceding α Lyræ.
	8 38	9 31⅓	18 10 26	11 21¼	12 14	α Lyræ.
♃ —— 20.	30 27½	31 10	1 31 53¾			☉'s 1st Limb.
			34 5	34 48½	35 31	☉'s 2d Limb.
	59 16½	0 6⅛	7 0 56⅓	1 47⅓	2 36½	Castor.
	6 49½	7 32¼	7 8 14½	8 57⅞	9 39½	Procyon.
	10 38½	11 26¼	7 12 15	13 4	13 51	Pollux.
♀ —— 21.			1 34 56⅛	35 39½		☉'s 1st Limb.
		36 22½	37 6½			☉'s 2d Limb.
		59 23⅛	7 0 14	1 5		Castor.
		6 49	7 7 32	8 15⅓		Procyon.
	9 56	10 43¾	7 11 32	12 21½	13 8½	Pollux.
♄ —— 22.	42 39		19 44 9½		45 39	1ma ad α } Capricorni.
		43 49	19 44 33⅓	45 18		2da ad α }
		46 26	19 47 10¼	47 54¾		Small * following them.
	17 23½	18 8⅓	20 18 53⅓	19 39⅓	20 23¼	☽'s 2d Limb.
☉ —— 23.	39 35½	40 18¾	1 41 2⅛	41 46⅞		☉'s 1st Limb.
		42 29⅓	43 13⅓	43 57¼	44 40	☉'s 2d Limb.
	16 7¾	16 51½	21 17 36½	18 20¾	19 5⅛	☽'s 2d Limb.
☽ —— 24.	42 40	43 23	1 44 6⅞	44 50½		☉'s 1st Limb.
		45 33¾	46 17½	47 1⅞	47 44½	☉'s 2d Limb.
♂ —— 25.	45 44½	46 27:	1 47 10¾	47 55¼		☉'s 1st Limb.
		48 38	49 22⅛	50 6½		☉'s 2d Limb.

† This Star, as far as I can find, is not in any catalogue: it may be about the sixth magnitude, and its zenith distance at the Cape, as shewn by the index of the transit instrument, was 33°.30′, or thereabouts; consequently its declination will be about 0° 26′ S. and its right ascension 17 h. 29′ 21″½.

Obfervations at the Cape of Good Hope, Continued

Obfervations of Meridian Altitudes of the Sun and Stars

1775	Zenith Diftances Interior Arch ° ′ ″	Exterior Arch G S V	+″	Exterior Arch reduced ° ′ ″	Barom	Thermom In Door	Thermom Out	Phenomena and Remarks
♀ April 7	41 2 4	43 3 3	15	41 2 30	29,98	76	75	☉'s L L
☉ —— 9	41 14 45	44 0 0	17	41 15 17	30,01	72½	75	☉'s U L
♂ —— 11	17 30 0	18 2 21	16	17 30 7	29,87	70½	65	Syrius
	66 15 0	70 2 22	6	66 15 23½	29,87	70	65	Caftor
	39 41 55	42 1 12	20	39 42 10	29,87	70	65	Procyon
☿ —— 12	42 52 53	45 2 31	20	42 53 20	30,02	68¼	69	☉'s U L
	19 58 5	21 1 6	0	19 57 57	30,04	69	63¼	ζ Navis } Clouds
	34 52 12	37 0 25	16	34 52 30	30,04	69	63½	β —— } Clouds
♃ —— 13	42 43 15	45 2 9	20	42 43 40	30,02	68½	68½	☉'s U L
	43 15 27	46 0 18	22	43 15 46½				☉'s L L
	17 30 12	18 2 22	5	17 30 22½	29,98	69¼	66	Syrius
	39 42 5	42 1 13	4	39 42 20½	29,97	69	64½	Procyon
	62 26 53	66 2 15	14	62 27 27	29,97	69	64	Pollux
	5 27 10	5 3 10	8	5 27 58				ζ Navis
	12 45 20	13 2 14	0	12 45 31½				γ
	19 57 45	21 1 6	10	19 58 7	29,97	69	63	δ
	34 51 20	37 0 23	17	34 51 38½				β
	24 34 22	26 0 27	16	24 34 38				η
♀ —— 14	39 42 8	42 1 13	13	39 42 29½	30,01	67½	64	Procyon
	62 27 15	66 2 15	8	62 27 21				Pollux
	5 27 52	5 3 11	10	5 28 26				ζ Navis
	12 45 7	13 2 15	5	12 46 03	30,0	67	63	γ
	19 58 5	21 1 7	10	19 58 33				δ
	34 51 50	37 0 23	20	34 51 41½				β
♄ —— 15	39 42 0	42 1 12	18	39 42 08	29,99	68½	64	Procyon
	62 26 57	66 2 15	23	62 27 36				Pollux
	34 52 0	37 0 25	8	34 52 22	29,97	68½	63½	β Navis
☉ —— 16	44 19 55	47 1 5	5	44 20 0½	30,0	67¼	69¼	☉'s L L
	5 27 37	5 3 11	6	5 28 22	29,94	68	64	ζ Navis
☽ —— 17	5 26 50	5 3 9	0	5 27 23½	30,0	67¼	61	ζ Navis
	12 45 8	13 2 14	10	12 45 41½	30,0	67¼	61	γ
	19 57 50	21 1 6	6	19 58 3	30,0	67½	61½	δ
	34 51 37	37 0 23	10	34 51 31½	30,01	68	61¼	β
	24 34 38	26 0 27	22	24 34 44	30,01	67	61	η
♂ —— 18	39 42 7	42 1 13	8	39 42 24½				Procyon
	5 26 30	5 3 9	10	5 27 33½	30,18	66	63	ζ Navis
	12 45 4	13 2 14	0	12 45 31½				γ
	19 58 0	21 1 7	8	19 58 31	30,18	66	62½	δ
	34 51 5	37 0 23	7	34 51 28½				β
☿ —— 19	45 22 15	48 1 19	8	45 22 32½	30,18	67	70	☉'s L L
	44 49 37	47 3 9	15	44 50 08½				☉'s U L
	34 52 0	37 0 25	5	34 52 19	30,0	69	69	β Navis
	24 34 15	26 0 27	22	24 34 44				η Navis

Obſervations at the Cape of Good Hope, Continued.

Obſervations for the Error of the Line of Collimation, made with the Board as formerly.

	Zenith diſtance of the upper hole: the quadrant direct. Interior Arch. ° ′ ″	Exterior Arch. G. S. V.	Exterior Arch. +″	Zenith diſtance of the lower hole: the quadrant inverted. Interior Arch. ° ′ ″	Exterior Arch. G. S. V.	Exterior Arch. +″
	87 49 22	93 2 22	13	92 11 27	98 1 10	22
	7	22	6	5	10	20
	20	22	16	15	10	20
	0	22	20	0	10	5
	20	22	13	20	10	15
	5	22	10	23	10	20
Means.	87 49 $12\frac{1}{3}$	93 2 22	$14\frac{1}{3}$	92 11 15	98 1 10	17
	87 49 0	93 2 22	12	92 10 30	98 1 9	6
	10	23	0	20	9	0
	0	23	0	38	9	18
	12	23	5	5	9	0
	0	22	16	30	9	16
	0	22	18	20	9	0
				50	9	20
Means.	87 49 $3\frac{2}{3}$	93 2 22	21,7	92 10 $27\frac{4}{7}$	98 1 9	$8\frac{1}{2}$
	87 48 52	93 2 22	6	92 10 38	98 1 10	11
	49 30	23	20	11 5	10	5
	48 45	22	5	11 0	10	0
	48 50	22	0	10 55	9	15
				10 40	10	8
	87 48 $59\frac{1}{4}$	93 2 22	$14\frac{1}{3}$	92 10 $51\frac{1}{2}$	98 1 10	$2\frac{1}{2}$

The Quadrant was inverted between every ſet, as the means are here taken, and of courſe the Obſervations give nine compariſons for each arch of the Quadrant; the mean reſult of which gives 1″,8 to be added to the interior arch, and 8″$\frac{1}{2}$ to be ſubtracted from the exterior arch.

Obſervations at the Cape of Good Hope, Continued

Computations of the Latitude, from the foregoing Obſervations

1775	Latitude by Interior Arch ° ′ ″	Latitude by Exterior Arch ° ′ ″	Declination ° ′ ″
	By Obſervations of the Sun		
♀ April 7	33 55 48¾	33 56 5	6 50 58 N
☉ —— 9	33 55 43¾	33 56 5	7 35 46
☿ —— 12	33 55 45¼	33 55 58	8 42 0
♃ —— 13	33 56 21	33 56 33	9 3 47
☉ —— 16	33 56 3	33 56 31	10 8 15
☿ —— 19	33 55 34¼	33 55 49¾	11 11 12½
	33 55 53¼	33 56 10	Means
	By Obſervations of Procyon		
♂ April 11	33 55 39	33 55 44	5 57 16 N
♃ —— 13	33 55 49	33 55 54¾	
♀ —— 14	33 55 52	33 56 3½	
♄ —— 15	33 5 44	33 55 42	
♂ —— 18	33 55 51	33 55 58¾	
	33 55 47	33 55 52¾	Means
	By Obſervations of Pollux		
♃ April 13	33 55 45¾	33 56 8¾	28 33 01 N
♀ —— 14	33 56 6¾	33 56 2¾	
♄ —— 15	33 55 48½	33 56 17½	
	33 55 53½	33 56 9¼	Means
	By Obſervations of ζ Navis		
♃ April 13	33 55 48¾	33 55 10½	39 2 43 S
♀ —— 14	33 55 6¾	33 54 42¾	
☉ —— 16	33 55 21¾	33 54 46½	
☽ —— 17	33 56 10¾	33 55 35	
♂ —— 18	33 56 8¾	33 55 35½	
	33 55 43	33 55 10	Means
	By Obſervations of ι Navis		
♃ April 13	33 55 41¾	33 55 39¾	46 40 51 S
♀ —— 14	33 55 54¾	33 55 8¾	
☽ —— 17	33 55 53¾	33 55 29¾	
♂ —— 18	33 55 57½	33 55 39½	
	33 55 51¼	33 55 29	Mean
	By Obſervations of δ Navis		
☿ April 12	33 55 20¾	33 55 38¾	53 53 24½ S
♃ —— 13	33 55 40¾	33 55 28½	
♀ —— 14	33 55 20¾	33 55 2¾	
☽ —— 17	33 55 35¾	33 55 32¾	
♂ —— 18	33 55 25¾	33 55 4	
	33 55 28½	33 55 21½	Mean

1775	Latitude by Interior Arch °	Latitude by Exterior Arch	Declination
	By Obſervations of Syrius		
♂ April 11	33 55 57¾	33 55 54¼	16 25 18
♃ —— 13	33 56 9½	33 56 10	
	33 56 3½	33 56 2¼	Mean
	By an Obſervation of Caſtor		
♂ April 11	33 55 38	33 55 51½	32 21 3 N
	By Obſervations of β Navis		
☿ —— 12	33 55 11¼	33 55 1¼	68 47 41 S
♃ —— 13	33 56 2	33 55 53½	
♀ —— 14	33 55 31¼	33 55 50	
♄ —— 15	33 55 22	31 55 10	
☽ —— 17	33 55 45	33 56 0	
♂ —— 18	33 56 17	33 56 0	
☿ —— 19	33 55 22¼	33 55 13½	
	33 55 38⅞	33 55 36¼	Mean
	By Obſervations of κ Navis		
♃ April 13	33 55 58	33 55 52½	58 30 32 S
☽ —— 17	33 55 42¼	33 55 46½	
☿ —— 19	33 56 5½	33 55 46¼	
κ Navis	33 55 55	33 55 48½	Mean
β ——	33 55 38⅞	33 55 36¼	Ditto
δ ——	33 55 28½	33 55 21¼	Ditto
ι ——	33 55 51¼	33 55 29	Ditto
ζ ——	33 55 43	33 55 10	Ditto
Southern ✱ s	33 55 43½	33 55 29	Mean
The Sun	33 55 53¼	33 56 10	Mean
Syrius	33 56 3½	33 56 2¼	Ditto
Caſtor	33 55 38	33 55 51½	Ditto
Procyon	33 55 47	33 55 52¾	Ditto
Pollux.	33 55 53½	33 56 9¼	Ditto
Northern ✱ s	33 55 51	33 56 1½	Mean
Southern ditto	33 55 43½	33 55 29	Ditto
Mean of both	33 55 47¼	33 55 45⅒	
	33 55 45⅒	Exterior Arch	
	33 55 46½	S Latitude	
	33 55 42¾	Meſſrs Maſon and Dixon	
	33 55 29½	Abbe de la Caille.	
	33 55 30	Mr Bayley	

Obfervations at the Cape of Good Hope, Continued.

Computations of the Clock's Rate of going.

1775.	Time of apparent Noon by the Clock. H ′ ″	Syderial Time of apparent Noon. H ′ ″	Difference. ′ ″	Clock lofes. ″
♀ March 24.	21 33 15,73	0 13 18,71	160 2,98	
♄ —— 25.	21 36 12,22	0 16 56,71	160 44,49	41,51
☉ —— 26.	21 39 7,95	0 20 35,43	161 27,48	42,99
☽ —— 27.	0 22 28,60	0 24 13,24	1 44,64	
♂ —— 28.	0 25 24,71	0 27 51,13	2 26,42	41,78
☿ —— 29.	0 28 19,36	0 31 28,13	3 8,77	42,35
♃ —— 30.	0 31 14,19	0 35 07,13	3 52,97	44,20
♀ —— 31.	0 34 10,68	0 38 45,22	4 34,54	41,57
♄ April 1	0 37 05,75	0 42 23,32	5 17,57	43,03
☉ —— 2.	0 40 0,27	0 46 01,61	6 01,34	43,77
☿ —— 5	0 48 46,31	0 56 57,19	8 10,88	43,18
♃ —— 6.	0 51 40,50	1 0 36,08	8 55,58	44,70
♀ —— 7.	0 54 37,38	1 4 15,08	9 37,70	42,12
☉ —— 9.	1 0 32,08	1 11 33,66	11 01,58	41,94
☽ —— 10.	1 5 29,16	1 15 13,34	11 44,18	42,60
♃ —— 13	1 12 29,72	1 26 14,0	13 44,28	40,3
♄ —— 15.	1 18 29,49	1 33 35,87	15 06,38	41,05
	Clock ftopped.			
☽ —— 17.	1 23 54,40	1 40 59,34	17 4,94	
♂ —— 18.	1 26 54,84	1 44 41,51	17 46,67	41,73
☿ —— 19.	1 29 58,52	1 48 24,19	18 25,67	39,0
♃ —— 20	1 32 59,05	1 52 7,26	19 8,21	42,54
☉ —— 23.	1 42 6,37	2 3 19,29	21 12,92	41,57

Comparifons of the Tranfit Inftrument with equal Altitudes.

1775.	Noon by equal Altitudes. H ′ ″	The ☉ paffed the Tranfit Inftrument. H ′ ″	[illegible] ′ ″	Error of the Inftrument. ′ ″
☉ March 26.	21 39 07,95	21 35 52,44	3 15,51	82 50
	Altered the Inftrument.			
☽ —— 27.	0 22 28,60	0 22 38,91	0 10,31	4 20
	Altered the Inftrument.			
♂ —— 28.	0 25 21,71	0 25 30,41	0 5,70	2 22
☿ —— 29.	0 28 19,36	0 28 24,94	0 5,58	2 18
♃ —— 30	0 31 14,16	0 31 19,66	0 5,50	2 17
	Moved the Inftrument.			
♀ —— 31.	0 34 10,68	0 34 12,55	0 1,87	0 45
♄ April 1.	0 37 5,75	0 37 8,25	0 2,50	1 0
☉ —— 2	0 40 0,27	0 40 2,53	0 2,26	0 54
☿ —— 5.	0 48 46,31	0 48 49,0	0 2,69	1 2
♃ —— 6.	0 51 40,50	0 51 44,06	0 3,56	1 21
	Moved the Inftrument.			
♀ —— 7.	0 54 37,38	0 54 38,38	0 1,0	0 23
☉ —— 9.	1 0 32,08	1 0 33,47	0 1,39	0 31½
☽ —— 10.	1 3 29,16	1 3 30,78	0 1,62	0 36
♃ —— 13	1 12 29,72	1 12 29,83	0 0,11	0 3
♄ —— 15.	1 18 29,49	1 18 31,04	0 1,55	0 33
☽ —— 17.	1 23 54,40	1 23 54,79	0 0,39	0 8½
☿ —— 19.	1 29 58,52	1 29 59,08	0 0,56	0 12
♃ —— 20.	1 32 59,05	1 32 59,29	0 0,24	0 5
☉ —— 23.	1 42 06,37	1 42 7,94	0 1,57	0 31

The difference between the rates of the Clock's going now, and when here in November 1772, is very extraordinary; but cannot, I think, be imputed to any abfolute alteration in the length of the pendulum, as it had never been altered, in any refpect, after the Clock was fet up at Dufky Bay; and although before that time it was always altered, in order to its being packed up, yet on fetting it up again, it was conftantly brought back to its proper length, by means of a fcratch on the rod, and the numbers on the nut. But, notwithftanding, I think it highly probable that the caufe does not lie there, I am utterly unable to affign any other fatisfactory one; and the moft likely hint I am able to give, after the clofeft examination, is, that all the time the Clock was now going here, the principal play, or bending of the pendulum fpring was down quite at the lower part of it: whether or no it had always been fo, or that the principal yielding of the fpring had formerly been in fome part higher up, which was now grown ftiff with ruft, I muft confefs I cannot tell, as a thought of this kind did not occur to me before. It is worthy obfervation, that the Clock went fomewhat fafter the fecond time it was at Otaheite, than it did the firft, and the difference was yet greater at Queen Charlotte's Sound.

Obſervations at the Cape of Good Hope, Continued

Computations of the Rate which Mr Kendall's Watch went at

1775	Time of apparent Noon by the Clock	Time by Clock when the Watch was compared	Time from Noon by the Clock	Gain of Watch on Clock	Time from Noon by the Watch	Time by the Watch when compared	Time of apparent Noon by the Watch	Mean Time of apparent Noon	The Watch too ſlow for mean Time	Da[illegible]
	H ′ ″	H ′ ″	′ ″	″	′ ″	H ′ ″	H ′ ″	H ′ ″	H ′ ″	″
♀ March 24	21 33 15 73	21 57 0	23 44 27	2 99	23 41 28	23 15 51 ¼	22 52 10 47	24 6 26 05	1 14 15 58	
♄ —— 25	21 36 12 22	21 14 4½	22 7 97	2 77	22 5 20	22 30 0	22 52 5 20	44 6 7 45	1 14 2 25	13 3
☉ —— 26	21 39 7 95	21 45 8½	6 0 55	0 76	5 59 79	22 58 0	22 52 00 21	24 5 48 85	1 13 48 64	13 6
☽ —— 27	0 23 28 60	0 40 35	18 6 40	2 27	18 04 13	23 10 0	22 51 55 87	24 5 30 14	1 13 34 27	14 3
♂ —— 28	0 25 24,71	0 32 36	7 11 29	0 91	7 10 38	22 59 0	2 51 48 62	24 5 11 55	1 13 22 93	11 3
☿ —— 29	0 28 19,36	0 38 36½	10 16 89	1 17	10 15 72	23 2 0	22 51 44 28	24 4 52 95	1 13 8 67	14 2
♃ —— 30	0 31 14 16	0 37 35½	6 21,34	0,97	6 20 37	22 58 0	22 51 39 63	24 4 34 44	1 12 54 81	13 8
♀ —— 31	0 34 10 68	0 43 35	9 24 32	1 17	9 23 15	23 1 0	22 51 36 85	24 4 16 04	1 12 39 19	15 6
♄ April 1	0 37 5 75	1 16 41	39 35 25	5 00	39 30 25	23 31 0	22 51 29 75	24 3 57 73	1 12 27 9	11 2
☉ —— 2	0 40 0 27	0 45 36½	5 36 48	0 70	5 35 78	22 57 0	22 51 24 22	24 3 39 43	1 12 15 21	12 7
☽ —— 3	0 42 55 0	0 47 36	4 41 0	0 59	4 40 41	22 56 0	22 51 19 59	24 3 21 32	1 12 1,73	13 4
♂ —— 4	0 45 50,65	0 56 37½	10 17 03	1 34	10 15 69	23 2 0	22 51 14 32	24 3 3 41	1 11 49 9	12 6
☿ —— 5	0 48 46 31	1 14 38½	25 51 94	3 22	5 48 72	23 17 0	22 51 11 28	24 2 45 61	1 11 34 31	14 7
♃ —— 6	0 51 40 50	0 14 30½	37 10 25	4 63	37 5 62	23 14 0	2 51 5 62	24 2 27 90	1 11 22 28	13 0
♀ —— 7	0 54 37 38	1 1 36½	6 59 12	0 86	6 58 26	22 58 0	23 51 1 74	34 2 10 39	1 11 8 65	13 6
☉ —— 9	1 0 32 08	1 7 37½	7 5 04	0 89	7 4 15	22 58 0	22 50 55 85	24 1 35 97	1 10 40 12	14 2
☽ —— 10	1 3 29 16	1 11 38½	8 9 09	1,02	8 8 07	22 59 0	22 50 51 93	24 1 19 12	1 10 27 19	12 9
☿ —— 12	1 9 28 65	1 16 42⅓	7 14 02	0,92	7 13 10	22 58 0	22 50 46 90	24 0 46 23	1 9 59 33	13 8
♃ —— 13	1 12 29 72	1 19 46⅓	7 16 95	0 93	7 16 02	22 58 0	23 50 43 98	4 0 30 2	1 9 46 21	13 0
♀ —— 14	1 15 28 97	1 6 48	8 40 97	1 10	8 39 87	22 42 0	22 50 39 8,	24 0 14 53	1 9 34 66	11 5
♄ —— 15	1 18 29 49	1 24 54	6 25 01	0 81	6 24 20	22 57 0	22 50 35 80	23 59 59,18	1 9 23 38	11 28
☉ —— 16	1 0 5 70	1 27 19½	6 26 80	0 81	6 25 99	22 57 0	22 50 34 01	23 59 44 17	1 9 10 16	13 2
☽ —— 17	1 23 54 40	1 36 24½	12 30 35	4,10	12 26 25	23 23 0	22 50 33 75	23 59 29 51	1 8 55 78	14 38
♂ —— 18	1 26 54 84	1 35 21¼	8 30 41	1 09	8 29 32	22 59 0	22 50 30 68	23 59 15 24	1 8 44 56	11 22
☿ —— 19	1 29 58 52	1 35 28⅓	5 30,15	0 70	5 29,45	22 56 0	22 50 30 55	23 59 1 40	1 8 30 85	13 71
♃ —— 20	1 32 59 5	1 43 31	10 31 95	1,33	10 30,62	23 1 0	22 50 29 38	23 58 48 0	1 8 18 62	12 23
♀ —— 21	1 36 0 50	1 54 0	17 59 50	2 28	17 57 22	23 8 28 5	22 50 30 28	23 58 35 06	1 8 4 78	13 84
☉ —— 23	1 42 6 37	1 50 35½	8 29 13	1 07	8 28 06	22 59 0	22 50 31 94	23 58 10 42	1 7 38 46	13 15

The mean of all the above gains is 13,172, the firſt and laſt days Obſervations give 13,236, and the mean of the two is 13 204, the gain of the watch on mean time in twenty four hours

Obſervations at the Cape of Good Hope, Continued.

Obſervations for the Dip of the Magnetic Needle.

1775.	Face of the Inſtrument. Eaſt. ° '	Face of the Inſtrument. Weſt. ° '
	46 55	45 35
	45 40	45 0
	46 30	43 30
	Changed the Poles.	
	43 0	46 55
	42 30	48 15
	42 30	48 50
	44 30	47 45
	47 0	45 45
	42 30	45 50
	Altered the Balance.	
	43 35	48 30
	46 0	47 15
	43 0	45 35
	Altered the Balance.	
	45 5	45 30
	46 35	45 55
	47 15	47 45
	46 40	46 20
	Changed the Poles.	
	45 15	45 20
	46 35	43 30
	47 0	42 40
	46 15	45 0

Face of the Inſtrument. Eaſt. ° '	Face of the Inſtrument. Weſt. ° '
43 45	46 50
46 30	43 45
48 15	48 45
45 45	42 45
Changed the Poles.	
47 40	44 25
46 30	45 45
48 35	47 45
46 35	47 45
45 25	43 35
45 55	42 45
45 0	47 10
Changed the Poles.	
43 45	44 15
44 15	47 0
46 30	47 0
43 15	49 0
45 45	43 30
47 35	43 10
42 45	44 30
43 05	44 30
42 45	43 15
Changed the Poles,	
43 35	42 55
43 40	43 25
42 40	42 25
44 35	42 05

The mean of all gives the dip of the Needle's S. end. } 45 18¼

Obſervations for the Variation of the Compaſs.

1775.	Variation. ° '	Variation. ° '	Variation. ° '
April 23.	21 10 W.	21 15 W.	21 55 W.
	21 25	21 30	21 0
	21 25	21 10	21 30
	21 10	21 15	20 50
	21 0	21 25	21 20
	20 55	21 0	21 10
	21 5	21 15	21 45
	21 15	21 10	20 40
	21 15	21 15	21 15
	21 10	21 10	21 25
	21 20	21 35	21 15
	21 35	21 0	21 10
	20 50	21 15	21 15
	21 40	21 15	21 15
	21 20	21 30	21 5
	21 25	20 50	21 15
	21 0	21 0	21 20
	21 10	21 5	21 10
	21 10	21 25	21 25
	21 10	21 0	21 15

The firſt two columns were obtained by placing the Compaſs at the Tranſit Inſtrument, and making the index biſect the meridian mark; the laſt was got by placing the Compaſs at the mark, and ſetting the index to cut the Tranſit Teleſcope. The mean of them all is 21° 14'¼ W.

Obfervations made at the Cape of Good Hope, Continued

As there have been fome difputes concerning the relative fituation of the place where the late *Abbe de la Caille* made his Obfervations, with refpect to that where Meffrs Mafon and Dixon, as well as Mr Bayley and myfelf obferved and, moreover, as it may alfo contribute fome thing towards the bufinefs I was employed on at the Cape of Good Hope to determine with accuracy, the difference of latitude and meridians between thefe places, the following account of a furvey, made for that purpofe, will not, I prefume be unacceptable

In the annexed Figure, (fee Plate I Fig 1) C is the place of the *Abbe's* Obfervatory and O that of ours; S N is the meridian line paffing through the latter and S a point or mark in it, 8,84 chains to the fouthward of the Obfervatory The lines S G G E E A, and A C, which are in the directions of the feveral ftreets were carefully meafured, as alfo the angles at S G E and A The line S G was found to be 12,26 chains (of Gunter), G E is 7 50 chains E A 34 chains, and A C 5,64 chains I found the inclination of the plane whereon the line O S was meafured 1° 25, of that whereon S G was meafured 2° 05 that on which G E was meafured did not differ fenfibly from the horizontal level E A declined 1° 59 from the plane of the horizon, and A C was nearly horizontal I have not made any allowance for thefe elevations in the computation, whereby the following refults were deduced thinking them fo fmall as not to merit notice, but have put down the inclinations themfelves, for the fatisfaction of fuch perfons as may think otherwife The angle at S meafured 14° 48 7 ½, that at G 11 ° 51 54, that at E 85° 41 15, and that at A 106° 38 5 The quadrant fhewed angles too fmall by 18, as I found by Obfervations made for that purpofe Hence it will readily be feen that one fide and all the angles are given in each triangle from whence I found that O N the difference of latitude, was equal to 37 69 chains or 0,409 of a mile=24 ½ and that H B=N C the meridian diftance was 16,86 chains, or, 183 of a mile=13″½ in longitude; the *Abbe's* Obfervatory being thefe quantities to the northward and eaftward of ours

The Mountain at this place, ufually known by the name of the *Table Mountain* from its flat top, being one of the higheft and moft remarkable in the known world fo near the fea; I thought the knowledge of its height might prove a matter acceptable to many and perhaps be of fome ufe in phyfical enquiries Thefe confiderations induced me to make the following Obfervations which though not on fo large a bafe as might be wifhed, will neverthelefs, I hope, be fufficient for the purpofe The bafe having been meafured twice over, with the utmoft care, on a tolerably even plane, and the two meafurements differed only nine links of Gunter's chain from each other; the whole length of the bafe line was 50 chains, or 3300 Englifh feet, and lay in a direct line from that part of the hill which I obferved the altitude of

Being thus pretty well affured of the length of my bafe, I placed the aftronomical quadrant at the lower end of it, fet the Telefcope very nicely to 90, allowing the error of the Quadrant and turned it round until the middle horizontal wire cut the main topmaft of the Refolution as fhe lay at anchor in the bay and when I had adjufted the plumb-line very accurately I found that the middle wire of the Telefcope cut the main topmaft about ¼th or ⅓d of the way up between the cap of the main maft and the truffel trees of the main topmaft

Obſervations at the Cape of Good Hope, Continued.

I next took the following zenith diſtances of a mark at the upper end of the baſe-line, which was exactly of the ſame height from the ground with the center of the Quadrant, viz.

Interior Arch.			Exterior Arch.			
°	′	″	G.	S.	V.	+″
87	35	55	93	1	24	16
	36	52			26	8
	35	50			24	12
	36	5			25	10

With the Quadrant yet ſtanding at the ſame place, I took the following zenith diſtances of the higheſt part of the Table Mountain: I mean that part which forms the right-hand cliff of the paſſage, whereby the mountain is uſually aſcended.

Interior Arch.			Exterior Arch.			
°	′	″	G.	S.	V.	+″
74	24	37	79	1	16	5
	24	45			16	7
	24	15			15	10

I now removed the Quadrant to the upper end of the baſe-line, and there took the following zenith diſtances of the ſame point of the mountain.

Interior Arch.			Exterior Arch.			
°	′	″	G.	S.	V.	+″
71	5	50	75	3	11	18
	5	30			11	10

Clouds now covered the hill, ſo that I could get no more of theſe laſt. The Barometer ſtood at 29,98, and the Thermometer at 64. It is neceſſary to add, that the length of the Reſolution's main-maſt was 70 feet 11 inches, of her main-topmaſt 42 feet 5 inches: 11 feet and 6 inches of the main-maſt was loſt in the water, the top-maſt overlapped at the heel 9 feet and 10 inches, and the truſſel-trees were 4½ feet below its cap. Hence the cap of the main-maſt was 59 feet and 5 inches above the ſurface of the ſea, and the main-topmaſt truſſel-tree 27½ feet above that; one fourth, or one third of which may be taken at 8 feet, and then the lower end of the baſe will appear to be 67½ feet, or 22½ yards above the ſurface of the ſea, allowing nothing for the horizontal refractions, or the curvature of the earth on the diſtance, which was about a mile and quarter.

If then, in Fig. 2, Plate II, A E repreſent an horizontal line drawn through A, the lower ſtation; B D another drawn through the upper ſtation, B; A B the line meaſure, =3300 feet, or 1100 yards, and C D the perpendicular height of the mountain above the horizontal line B D; by taking a mean of the zenith diſtances ſhewn by the two arches of the Quadrant, and

Obſervations at the Cape of Good Hope, Continued

allowing the mean aſtronomical refractions thereon, which may, perhaps, be a ſmall matter more than ought to be done, B F, the perpendicular height of the ſecond ſtation, above the firſt, will come out 40½ yards; and D C, the perpendicular height of the ſummit of the mountain, above the ſecond ſtation, 1422½ yards; and of courſe the height of the mountain's ſummit, above the lower ſtation, is 1463 yards; to which adding 22¼ yards the height of the lower ſtation above the ſea, the whole height of the mountain will be 1485¼ yards

If no refractions whatever be allowed, B F will be 46 yards, and C D 1407 yards; and the whole height of the mountain 1475¼ yards above the level of the ſea

As B C, the diſtance of the upper ſtation from the top of the mountain, comes out only 4400½ yards in one caſe, and 4342¼ yards in the other; the whole diſtance of the top of the mountain from the ſea-ſhore cannot exceed four miles, as my firſt ſtation was not quite three fourths of a mile from it

Obſervations at the Iſland of St. Helena, Latitude 15° 55′, S. Longitude 5° 49′, W.

Obſervations for the Dip of the Magnetic Needle.

1775.	Face of the Inſtrument. East. ° ′	Face of the Inſtrument. Weſt. ° ′
♀ May 19.	14 10	14 25
	14 35	14 5
	14 50	14 10
Mean	14 31⅔	14 13⅓
	Changed the Poles.	
	9 50	8 45
	10 0	8 45
Mean	9 55	8 45
	Altered the Balance.	
	11 05	10 45
	9 30	10 45
Mean	10 17½	10 45
	Changed the Poles.	
	13 55	12 5
	13 10	13 40
	13 5	12 20

1775.	Face of the Inſtrument. Eaſt. ° ′	Face of the Inſtrument. Weſt. ° ′
♀ May 19.	14 15	14 40
	14 0	13 30
	14 0	14 0
Mean	13 44⅙	13 22½
	Changed the Poles and altered the Balance.	
May 20.	12 30	11 40
	12 40	11 30
	13 5	13 0
	13 15	13 30
	13 0	13 45
	13 15	12 35
	13 0	13 05
	12 30	12 35
	13 15	12 30
	13 10	12 25
Mean	12 58	12 27½

1775.	Face of the Inſtrument. Eaſt. ° ′	Face of the Inſtrument. Weſt. ° ′
	Changed the Poles.	
	10 45	8 30
	9 0	9 50
	9 5	8 35
	8 45	8 45
	8 55	8 45
	8 50	8 45
Mean	9 13⅓	8 52
Mean of all the means	11 29⅔	11 20¾
Dip of the Needle's ſouth end		11 25¼

Other Obſervations.

1775.	Time by the Watch K. H ′ ″	Apparent Time. H ′ ″	Double Altitude of the ☉'s L.L. ° ′	Error of the Quadrant. ′ ″	Therm.	Latitude. ° ′ ″	Longitude by the Watch. ° ′ ″	′
♃ May 18.		Noon	108 31	—1 7½	75¾	15 55 16		
♀ — 19.	22 18 5½	21 48 18,1	82 26	—0 30	76¼	——	5 47 22½	Weſt.
	18 45		82 38					
	19 14		82 47½					
	19 40½		82 56¼					
	20 5		83 3¾					
	20 34		83 13¾					
♄ — 20.		Noon	107 38¾	—0 42	76	15 55 28		

Obſervations at the Iſland of Aſcenſion, Latitude 7° 56′¼ S Longitude 14° 32′½ W

Obſervations for the Dip of the Magnetic Needle

1775	Face of the Inſtrument East ° ′	Face of the Inſtrument Weſt ° ′
☽ May 29	9 40	8 0
	9 15	8 30
	9 10	8 25
	8 45	8 30
	9 30	8 30
	9 20	8 40
Mean	9 $16\frac{2}{3}$	8 $25\frac{5}{6}$
	Changed the Poles	
	10 15	10 0
	9 40	7 10
	8 30	8 15
Mean	9 $28\frac{1}{3}$	8 $28\frac{1}{3}$
	Changed the Poles	
	8 5	9 25
	10 45	8 0
	10 5	8 40
	8 40	7 45
	8 30	8 30
	9 13	8 28

1775	Face of the Inſtrument Eaſt ° ′	Face of the Inſtrument Weſt ° ′
☽ May 29	9 15	10 0
	9 15	9 15
	9 10	9 0
	9 0	9 30
	9 0	9 10
	9 05	8 30
	9 10	8 15
Mean	9 $7\frac{6}{7}$	9 10
3d ditto	9 13	8 28
2d ditto	9 $28\frac{1}{3}$	8 $28\frac{1}{3}$
1ſt ditto	9 $16\frac{2}{3}$	8 $25\frac{5}{6}$
Mean of all the means	9 $16\frac{3}{7}$	8 $38\frac{1}{24}$
		9 $16\frac{3}{7}$
Dip of the Needle's North End		8 $57\frac{1}{4}$

Mr Kendall's watch gave the longitude of the ſhip at anchor 14° 31 49 W I got no lunar Obſervations for the longitude while here; but three taken before our arrival, and reduced to this place by means of the watch, gave 14 58 11″, and twelve taken after leaving it, ſix of which were of the ſun and moon, and ſix of the moon and ſtars, on the other ſide of her, gave, when reduced back by the watch, 14 6 50″ The mean of the two is 14 32″ 30 W The latitude of the ſhip, as ſhe lay at anchor, was 7 55′ 53″ S, by a mean of three Obſervations; and the variation of the Compaſs was 10 52 ½ W

N B The higheſt part of the iſland bore W by N ½ N by Compaſs, about four leagues diſtant.

Obſervations made at the Iſland of Fyal, one of the Azores.

1775.	Equal Altitudes. Times by the Watch K. Lower Wire.	Middle Wire.	Upper Wire.	Zenith Diſtance.	Supplement to the double Altitude of the ☉'s L. L.	Thermometer.	Time of apparent Noon by the Watch.	Phenomena, &c.
	′ ″	H ′ ″	′ ″	° ′ ″	° ′ ″		H ′ ″	
♃ July 13.	28 43¼	0 31 15½	33 44	29 20 0				☉'s U. L. Eaſter-
	31 47½	34 19	36 47½					☉'s L. L. ly.
☿ — 14.							2 25 02,63	
	18 12½	4 15 42¾	13 15	29 20 0				☉'s L. L. Weſ-
	21 12¾	18 43¾	16 16½					☉'s U. L. terly.
	—	23 57 13½	59 32½	35 40 0				☉'s U. L. Eaſter-
	—	—	—					☉'s L. L. ly.
♄ — 15.					34 31 47	76½	2 25 24,23	Latit. 38° 32′ 49″ N.
	—	—	—	35 40 0				☉'s L. L. Weſ-
	—	4 53 28	61 8¼					☉'s U. L. terly.
	—	0 5 10½	—	34 20 0				☉'s U. L. Eaſter-
	5 40½	—	—					☉'s L. L. ly.
☉ — 16.					34 48 54	76½	2 25 41,17	Latit. 38° 31′ 43″ N.
	45 35½	—	—	34 20 0				☉'s L. L. Weſter-
	—	4 46 05	—					☉'s U. L. ly.
	—	—	20 41½	55 0 0				☉'s U. L. Eaſter-
	—	22 21 11½	—					☉'s L. L. ly.
☽ — 17.	—				35 9 48	76½	2 26 02,04	Latit. 38° 32′ 7″ N.
	—	6 30 42¾	—	55 0 0				☉'s L. L. Weſ-
	—	—	31 13					☉'s U. L. terly.
		21 —	45 36½	62 0 0				☉'s U. L. Eaſter-
	—	—	48 18½					☉'s L. L. ly.
	15 18½	22 17 34	19 46½	55 20 0				☉'s U. L.
	18 2½	20 15¾	—					☉'s L. L.
	54 34½	21 56 51½	59 06:	47 40 0				☉'s U. L. Eaſter-
	57 20¾	59 36½	1 49½					☉'s L. L. ly.
	4 34½	0 6 57:	9 16¾	34 20 0				☉'s U. L.
	7 26½	9 50	12 13					☉'s L. L.
♂ — 18.					35 30 45	77½	2 26 19,80	Latit. 38° 32′ 42″ N.
	45 6	4 42 42½	40 18½	34 20 0				☉'s L. L.
	48 1½:	45 36½	43 14					☉'s U. L.
	55 8:	5 —	50 40½	47 40 0				☉'s L. L.
	57 54¾	—	53 25½					☉'s U. L. Weſ-
	34 26½	6 32 14½	30 01¾	55 20 0				☉'s L. L. terly.
	37 10	34 55½	32 44½					☉'s U. L.
	—	7 —	4 8½	62 0 0				☉'s L. L.
	—	—	6 53					☉'s U. L.

Obfervations at Fyal, Continued

Computations of the Watch's Rate of going

1775	Time of Noon by the Watch H ′ ″	Mean Time of apparent Noon H ″	Watch fafter than mean Time H ′	Watch gains on M Time ″
♀ July 14	2 25 2,63	0 5 19 52	2 19 43 11	
♄ —— 15	25 24 23	0 5 25 89	19 58 34	15 23
☉ —— 16	25 41 17	0 5 31 72	20 09 45	11 11
☽ —— 17	26 02 04	0 5 37 09	20 24 95	15 50
♂ —— 18	26 19 80	0 5 42 05	20 37 75	12 80

The mean of thefe four is 13 66; but if a mean of all the comparifons which can be formed out of the five Obfervations be taken its gain on mean time will be 13 528 The longitude fhewn by the watch is 28° 56 20′ W or 47 19 35 weft of the Cape of Good Hope I had no lunar Obfervations here for the longitude; but a mean of 15 taken before we arrived here gave 28 1 44 ½ when brought on by the watch; and eight taken after leaving it and carried back by the watch gave 28° 46 42 ½ The mean of the two is 28 24 13 ¼ weft

Obfervations for the Variation of the Compafs

1775	Zenith Diftance of the Sun	Azimuth of the Sun's Center	Variation W ft
☽ July 17	62 28¼ U L	N 62 15 W	21 5/3
	43½	61 45	
	54	61 25	
	63 3⅞	61 20	
	19⅞	61 0	
	31½	60 35	
♂ —— 18	56 51 L L	N 66 45 W	2 10
	57 1⅞	64 15	
	57 13¼	66 55	
	57 24¼	65 0	
	59 11	N 65 55 W	1 44 2
	59 21¼	64 5	
	59 36½	65 15	
	59 46¼	63 50	
		Mean	22 7¼

Obfervations for the Dip of the Magnetic Needle

1775	Face of the Inftrument Eaft °	Face of the Inftrument Weft °
☽ July 17	70 20	71 0
	70 45	72 30
	71 30	72 15
	70 10	2 0
Mean	70 41¼	71 56¼
	Changed the Poles	
	72 55	69 30
	72 0	69 55
	70 20	69 30
	71 45	69 15
	72 05	69 25
	72 0	71 10
Mean	71 50⅝	69 47⅝
	Changed the Poles	

Face of the Inftrument Eaft	Face of the Inftrument Weft °
69 35	72 15
70 30	71 30
70 40	72 0
71 0	70 40
70 35	70 40
70 5	71 0
70 10	72 0
70 22½	71 26¼
Changed the Poles	
71 45	70 45
71 0	70 50
71 30	70 30
71 20	70 40
71 23¾	70 41¼

The mean of all thefe means is 71 01⅛ which is the dip of the needle's north end

Obfervations on the Tides

1775	Apparent Time H ′	
☽ July 1	0 7½	The water at a mark
	0 24½	The water at a fecond mark
	0 39½	It came to a third
	2 49½	High water
	4 52½	The water returned to the third mark
	5 17½	It returned to the fecond
	5 34½	It returned to the firft

By one mark the water appeared to flow four feet and one inch and by another only three feet and ten inches The mean of the two is three feet, 11 inches and a half

ASTRONOMICAL OBSERVATIONS

F O R

Determining the LATITUDE of the Ship, and her LONGITUDE, by Mr. ARNOLD's two Watches, No. 1 and 2.

Made on Board his MAJESTY's Sloop ADVENTURE, in her late Voyage on Discoveries towards the South.

By Mr. WILLIAM BAYLEY.

It appears, from Page 4, that both Nos. 1 and 2 were set 12″ too slow for mean time at Drake's Island, in Plymouth Sound, on July the 10th, in the evening; but Mr. Arnold having forgot to wind up No. 2 when he set it a going, it stopped, and was set a going again by Mr. Bayley on the 12th, on which day, when No. 1 shewed 0 h. 30′, it shewed 1 h. 23′ 45″; and Mr. Bayley remarks, that this Watch was 53′ 45″,4 too fast for mean time at Drake's Island on the 13th at noon.—The several rates of going, mentioned on Page 4, were allowed, until our arrival at the Cape of Good Hope.

1772.		Time by Watch No. 1. H ′ ″	Time by Watch No. 2. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude West of Drake's Island. By No. 1. ° ′ ″	Longitude West of Drake's Island. By No. 2. ° ′ ″	Latitude of the Ship N. ° ′	Thermom. C.	Thermom. D.	No. of Obs.
☿ July	15.	20 1 19⅓	20 55 30	33 4¼	2 25 51	2 21 0	47 43	64	62	3
♃ ——	16.	Noon.		63 35			47 29¼	65	64	
		6 3 42½	6 57 59½	17 22¾	2 52 3	2 44 9	47 11	65½	62	4
♀ ——	17.	Noon.		64 28			46 26½	66	68	
♄ ——	18.	19 21 50	20 16 7½	25 6	3 38 54	3 25 9	45 35	62½	65	3
		10 32 34		56 36						2
		11 32 45		63 15 1/10			45 22			3
☉ ——	19.	Noon.		65 14			45 19	66	64	
☽ ——	20.	Noon.		66 26			43 55¼	64	67	
♂ ——	21.	Noon.		66 40			43 29½	65	67	
		6 23 55	7 18 7½	13 32	4 19 37½	3 56 25½	43 26	62	65	3
		19 18 41½	20 12 51½	23 15	4 39 13½	4 13 25½	43 40	61	65	3
☿ ——	22.	Noon.		66 20			43 37½	66	66	
		18 44 50½	19 38 58½	16 18½	5 25 52½	4 56 0	42 36	63	67	3
♃ ——	23.	Noon.		67 29			42 16½	65	68	
♀ ——	24.	Noon.		69 29			40 03¼	66½	67	
		6 30 51½	7 25 0½	13 16	7 34 30	7 0 24	39 32	66	67	3
♄ ——	25.	Noon.		71 40			37 40½			
		6 16 59	7 11 10	16 19	8 57 42	8 20 43	37 13	67	67	3
☉ ——	26.	Noon.		73 34			35 31⅔	71	72	
		6 3 4	6 57 16½	19 27⅓	10 8 33	9 28 42	35 11⅔			3
☽ ——	27.	Noon.		75 9			33 43	71	72½	
		6 16 38	7 10 51⅓	16 57⅔	10 58 10	10 15 9	33 23	71	72	3
		20 3 41	20 57 54½	20 35⅔	11 37 45	10 52 54	33 6	70½	71	3
♂ ——	28.	Noon.		75 50			32 48	74	74½	
		5 45 40	6 39 53	24 13⅘	12 22 55½	11 36 37½	32 40	73½	74	3
♃ ——	30.	The Time-keepers were carried on shore at Fonchial, on the island of Madeira, and compared with the Clock by which the times of equal altitudes had been noted, (See page 6.) from whence I find, that No. 1 made the difference of Longitude, between Drake's Island, and the above-mentioned place, 12° 29′ 16″, and No. 2 made it 11° 37′ 57″, that is 16° 45′ 23″½, and 15° 54′ 4″½ West of Greenwich.								
☉ Aug.	2.	Noon.		75 23			32 0 1/12	73	72	
		20 59 35	21 53 21¼	34 32⅔	12 52 22½	11 52 45½	30 0	73	74½	4
☽ ——	3.	Noon.		77 24			29 43 7/8	75	73	
		6 11 51	7 5 46½	18 4¼	13 5 52	11 55 9	29 25	72½	72	5
♂ ——	4	Noon.		78 11			28 40¼	74	73	
		4 25 44	5 19 39½	41 40½	13 58 30	12 47 58	28 29	74½	73	2

17	Time by Watch No 1	No 2	Altitude of the ☉'s L. L.	Longitude West of Drake's Island By No 1	By No 2	Latitude of the Ship N.	Therm. in C	D	
	H ' "	H ' "	° '	° ' "	° ' "	° '			
♂ Aug.	4 42 4		37 51			2 29	74½	73	1
	4 53 13		35 37½	13 52 15		26 29	74½	73	
	6 50 28		10 10½			21 26	74	74	1
☿ — 5	Noon		78 42			27 53	74	74	
	5 22 41½		29 18			27 31	74	73	5
	5 52 53½		22 38	14 15 45		27 30	74	73	4
♃ — 6	Noon		80 12			26 6	74	73	
	20 44 13½	21 38 8	28 48½	14 44 37½	13 36 51	24 32	74	76	4
♀ — 7	Noon		81 54			4 8	74½	7[illegible]	
♄ — 8	Noon		83 34			22 10¼	73	76	
	6 2 13		20 19½	15 22 18		21 50	73	73	
	20 19 15	21 13 17½	21 23	16 1 30	14 31 0	20 42	74	74	5
☉ — 9	Noon		85 18			20 8¾			
☽ — 10	Noon		87 8			18 1	77½	77	
	22 28 40	23 22 29	49 25¼	17 57 30	16 19 20	16 29	77	78½	5
♂ — 11	Noon		88 40			16 11			
	1 9 54	22 3 43½	30 04	18 23 7½	16 41 27	15 12	77	76	4
♄ — 15	5 45 55	6 39 26	24 45	18 14 7½	16 17 10	13 23	79	79½	4
	20 40 50½	21 34 19	22 46	18 17 0	16 17 30	12 36	79½	79	4
☉ — 16	Noon		88 40			12 21	79	79½	
♂ — 18	Noon		88 23			11 25½	80	81	
	5 56 30	6 50 5	19 39	16 24 54	14 19 0	11 18	80	77	4
	19 53 25		13 19	15 57 30		10 47	79	76	3
☿ — 19	0 21 32	21 15 19	20 27¼	15 20 0	13 12 0	9 17	78	77	4
♀ — 21	Noon		86 38			8 41	79	78	
♄ — 22	Noon		86 11						
	20 42 16	21 36 29	28 33	11 56 46½	9 45 0	7 55	79	78½	
☉ — 23	Noon		85 30			7 4			4
☽ — 24	Noon		85 22			6 53	79	79½	
	45 33	6 39 56	14 58	10 9 0	7 55 0	6 24			
♂ — 25	Noon		85 12			6 20	79	78	4
☿ — 26	20 32 46	21 27 26	30 57	6 49 46	4 31 9	5 53¼	80	79½	
♃ — 27	Noon		84 14			4 27	79½	80	4
	4 26 53	5 21 36	30 7	6 23 27	4 17 50	4 13¼	79	80	
♀ — 28	Noon		84 02			4 9	77½	78	8
	5 2 37½	5 57 29	19 41	4 53 43½	2 23 30	3 40¼			
	19 23 32½	0 18 29	16 40½	4 7 30	1 46 38	3 36	76½	78	6
♄ — 29	Noon		83 58			3 20	77	77½	6
	5 16 30½	6 11 31	14 44	3 29 25	1 8 15	3 15			
☉ — 30	Noon		83 44		East	3 10	76	77	6
	20 4 8½	20 59 26	30 20	0 27 39	1 54 45	2 40	78½	78	
☽ — 31	Noon		84 0			2 31	77	78	6
	4 30 54	5 25 53	22 31	0 8 16	2 14 51	2 34½	78	78½	
	0 15 21	21 10 41	33 20	0 14 30	2 10 4	2 31½	77	78½	6
♂ Sept. 1	Noon		83 47			2 4	77	78	6
	3 6 41		38 21			1 59	78	78½	
	4 42 5½	4 38 14	34 26	0 24 57	2 0 51	1 55	77½	78	
						1 55			3

1772.	Time by Watch No. 1. H ′ ″	Time by Watch No. 2. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude West of Drake's Island By No. 1. ° ′ ″	Longitude West of Drake's Island By No. 2. ° ′ ″	Latitude of the Ship N. ° ′	Thermom. C.	Thermom. D.	No. of Obs.
☿ Sept. 2.	Noon.		83 33			1 $23\frac{1}{11}$	78	78½	
♃ — 3.	Noon.		83 32½			1 0½	77	77½	
	19 26 28	20 22 1	18 $6\frac{3}{11}$	3 29 51	0 58 3	0 53	77	77	6
♀ — 4.	Noon.		83 45			0 51	77½	77	
	3 0 58⅔		47 $44\frac{1}{6}$		West.	0 49	76½	77	6
	3 30 58⅓	4 26 35	40 23¼	3 46 21	1 14 9	0 49	76	77	6
♄ — 5.	Noon.		84 13			0 $56\frac{1}{5}$	77	77½	
	3 22 26		42 39⅔			0 55	77	76½	3
	3 43 19	4 39 12½	37 22	3 50 46½	1 19 45	0 55	77	76½	6
	5 41 22		7 59						
			70 10 =	Altitude of ☽'s L. L.		0 51	76	75½	
	19 34 3	20 30 12	20 32½	3 6 30	0 27 6	0 40	76	77	6
☉ — 6.	Noon.		84 15			0 $35\frac{1}{5}$	76½	76	
	4 18 59	5 15 15	27 20¼	2 45 24	0 16 25	0 31	77	76	6
☽ — 7.	Noon.		84 25			0 23⅔	76½	76	
						South.			
	20 11 42	21 8 17½	29 56¼	3 0 36	0 30 51	0 11	76	75	6
♂ — 8.	Noon.		84 6			0 18	76	75½	
	4 8 6⅓	5 4 43½	30 $35\frac{1}{7}$	3 32 33	1 2 16	0 20	76	75	6
	20 6 32	21 3 12½	27 $56\frac{1}{11}$	3 55 6	1 24 15	0 50	76	76	6
☿ — 9.	Noon.		83 52			0 $54\frac{1}{7}$	76	76½	
	5 16 42⅓	6 13 25	14 $12\frac{1}{5}$	4 18 22½	1 46 7½	1 0	76	75½	6
♃ — 10.	Noon.		83 12			1 57½	76	75½	
	5 2 9⅔	5 58 59	19 3½	5 34 10½	3 0 15	2 7	75	74	6
	19 53 34	20 50 25	22 19	6 21 19½	3 45 31	2 49	75	74	3
♀ — 11.	Noon.		82 33			2 59⅔	76	76	
	4 43 28	5 39 56	24 39	6 44 45	4 8 30	3 10			6
♄ — 12.	Noon.		81 45			4 10⅔	76	$75\frac{1}{7}$	
	4 50 8½	5 47 10	23 $34\frac{1}{6}$	7 36 20	4 58 45	4 20	76	75	6
☉ — 13.	Pocket	0 54 11	79 21						
	Watch.	1 55 15	66 54			5 5			
	4 32 32	5 29 33	28 $47\frac{4}{7}$	8 37 36	5 56 36	5 15	76	75	3
☽ — 14.	Noon.		80 12			6 29½	75	75½	
	5 7 10	6 4 34	21 $4\frac{1}{6}$	9 38 46	7 0 15	6 41			3
♂ — 15.	Noon.		78 55			8 9⅔	75	75	
	21 9 40	22 7 24¼	36 19	11 0 0	8 19 30	9 26			4
☿ — 16.	Pocket	1 19 23	74 20½						
	Watch.	2 26 2	60 47½			9 37			
	5 26 50	6 24 33½	17 33¾	11 20 14	8 40 55	9 52	73	73½	3
	21 24 24	22 22 25	39 $5\frac{7}{8}$	11 45 27	9 7 3	10 47	73½	73	4
☽ — 17.	Noon.		76 51			11 0⅓	75	73½	
	21 5 14	22 3 19	33 48	12 21 5	9 40 34	12 12	75	74	3
♀ — 18	Noon.		75 49			12 26½	75	74	
	20 28 28	21 26 42	14 3½	13 13 53	10 17 3	13 48½	73	72½	5
♄ — 19.	Noon.		74 34			14 4⅔	74	73	
	9 52 29		14 54			15 19			
	20 15 58	21 14 15	20 $24\frac{7}{11}$	13 54 25	11 10 10	15 20			6

1772	Time by Watch No 1	Time by Watch No 2	Altitude of the ☉'s L L	Longitude West of Drake's Island By No 1	Longitude West of Drake's Island By No 2	Latitude of the Ship		
	H ′ ″	H ′ ″	° ′	° ′ ″	° ′ ″			
☉ Sept 20	Noon		73 26			15 35		
	21 14 54	22 13 11	33 39$\frac{7}{8}$	14 40 30	11 50 0	16 56		
☽ —— 21	Noon		72 16			17 19		
	20 33 59	21 37 17½	24 42$\frac{1}{8}$	15 5 45	12 15 0	18 21		
	20 52 42½		27 48			18 25		
	23 19 37		16 7			18 26		
♂ —— 22	Noon		71 9			18 39		
	21 32 48½	22 31 12	36 35	15 35 30	12 42 51	19 51		
☿ —— 23	Noon		70 03			20 6		
	21 21 14	22 19 49	33 28	15 57 45	13 4 27	21 19		
	Pocket	10 41 52	50 58					
	Watch	12 7 13	65 49			21 30		
♃ —— 24	Noon		69 5			21 28		
♀ —— 25	Noon		68 6			22 50		
	20 32 47½	21 30 13½	21 17	17 20 7	14 3 9	23 59		
♄ —— 26	Noon		67 7			24 12	2	
	20 4 21	21 0 24	15 14	17 7 12	13 26 15	24 30		
☉ —— 27	Noon		67 3			24 40		
	20 9 43	21 5 36	16 46	16 56 45	13 10 1	25 18		
☽ —— 28	Noon		66 38			25 25¼		
	0 16 01	21 12 1	19 6$\frac{5}{8}$	16 4 16	12 16 0	26 4		
♂ —— 29	Noon		66 16			26 11½	71	
	4 33 10	5 29 13¼	32 2	15 24 0	11 35 0	26 16		
☿ —— 30	Noon		65 55			26 58		
	5 20 52	6 17 8	19 25¼	12 57 45	9 9 0	27 5		
	19 37 35	20 33 44¼	14 55					
♃ Oct 1	Noon		65 52			27 25		0
	4 35 34	5 31 56	27 48$\frac{1}{3}$	11 8 25	7 17 45	27 27		
	19 21 22½	20 17 15	12 21	10 43 35	6 43 16	27 29		
♀ —— 2	Noon		66 7			27 33¼		
	5 33 39	6 29 16	14 9	9 58 54	5 53 30	27 40	00	0
			0 26 =	☽'s L L		27 42		
♄ —— 3	Noon		66 0			28 4	00	00
	5 24 59½	6 20 36	14 37$\frac{1}{3}$	8 15 10	4 6 15	28 10		
☉ —— 4	Noon		65 29			28 5[illegible]		00
	5 0 44	5 55 47	17 48	5 46 27	1 26 0	29 6		
☽ —— 5	Noon		65 50			29 0	00	
	4 9 11		27 46	4 17 45		28 51	03	

Here Mr Bayley remarks, that the Watch (No 2) began to go very irregularly, from what cause he could not tell and on this account he left off computing the Longitude of the ship from it

1772.	Time by Watch, No. 1.	Altitude of the ☉'s L. L.	Longitude West of Drake's Island.	Latitude of the Ship S.	Barometer.	Thermom. C.	Thermom. D.	Force.	Remarks.
	H ′ ″	° ′	° ′ ″	° ′					
♂ Oct. 6.	Noon.	65 31		29 $32\frac{1}{2}$		64	61		
	20 0 38	26 $46\frac{1}{6}$	4 53 48	31 0		63	59	3	
☿ —— 7.	Noon.	64 18		31 $18\frac{1}{11}$		64	59		
	5 28 33	11 $22\frac{3}{11}$	4 52 51	31 34		64	58	3	
♃ —— 8.	Noon.	63 17		32 42		64	59		
	20 20 8	31 $57\frac{9}{10}$	3 25 34	33 40		64	58	5	
♀ —— 9.	Noon.	62 30		33 $52\frac{1}{2}$		64	59		
♄ —— 10.	Noon.	62 17		34 $28\frac{1}{2}$		64	61		
	4 54 58	15 $26\frac{1}{2}$	0 53 16	34 34		64	63	6	
☉ —— 11.	Noon.	62 27		34 41		66	59		
			East.						
	4 33 27	18 $58\frac{1}{2}$	0 21 49	34 44		64	61	6	
	18 41 53	15 $54\frac{1}{3}$	0 40 33	34 45		63	58	6	
☽ —— 12.	Noon.	62 41		34 $49\frac{3}{4}$		66	65		
	4 59 16	13 23	0 56 31	34 51		65	64	3	
♂ —— 13.	Noon.	62 44		35 9	29,8	64	65		
☿ —— 14.	Noon.	62 46		35 $29\frac{1}{2}$	29,9	65	60		
	18 55 49	23 $38\frac{1}{3}$	5 49 27	35 33		64	62	5	
♃ —— 15.	Noon.	62 46		35 33		64	61		Back Observation.
	4 12 $38\frac{1}{2}$	18 $37\frac{1}{2}$	6 44 7	35 32				6	
	18 41 $4\frac{1}{2}$	23 $15\frac{1}{2}$	8 42 36	35 18				6	
♀ —— 16.	Noon.	63 46		35 14		65	$62\frac{1}{2}$		
	18 11 47	19 $28\frac{1}{3}$	11 3 54	35 3		63	57	3	
♄ —— 17.	Noon.	64 25		34 $57\frac{1}{4}$		63	59		
☉ —— 18.	Noon.	65 11		34 $32\frac{3}{4}$	29,96	63	59		
	3 41 15	19 $0\frac{1}{6}$	14 47 0	34 39				3	
☽ —— 19.	Noon.	65 43		34 $21\frac{3}{5}$	29,97	64	59		
	3 53 38	16 $9\frac{1}{3}$	15 19 0	34 24				4	
	18 26 19	26 $52\frac{7}{8}$	15 34 0	34 37				4	
♂ —— 20.	Noon.	65 41		34 $45\frac{4}{5}$	29,9	64	59		
	17 7 6	11 $5\frac{1}{4}$	15 41 0	35 12	29,9	62	54	5	
	Meridian Altitude.	43 $23\frac{1}{2}$	☽'s U. L.	35 $18\frac{1}{6}$					
☿ —— 21.	Noon.	65 17		35 $31\frac{2}{3}$	30,2	65	59		
♃ —— 22.	Noon.	64 20		36 49	29,8	65	59		
♀ —— 23.	Noon.	64 20		37 10	29,9	64	59		
♄ —— 24.	Noon.	65 12		36 $38\frac{3}{4}$	30,1	62	57		
	3 54 33	13 $3\frac{11}{12}$	20 9 18	36 29	29,9	62	54	6	
☉ —— 25.	Noon.	66 45		35 26	30,2	$60\frac{1}{2}$	$56\frac{1}{2}$		
	3 31 22	16 $22\frac{1}{4}$	21 56 24	35 19	30,0	61	57	6	
☽ —— 26.	Noon.	67 49		34 43	30,0	61	$58\frac{1}{2}$		
	3 6 11	20 46	23 0 9	34 35	30,0	60	56	4	
♂ —— 27.	Noon.	69 6		33 $46\frac{2}{3}$	30,0	64	61		
	3 31 30	14 $46\frac{5}{6}$	24 6 4	33 $46\frac{2}{3}$	30,0	60	$56\frac{1}{2}$	6	
☿ —— 28.	Noon.	69 34		33 38	30,0	64	$62\frac{1}{2}$		
	3 12 45	18 $6\frac{3}{8}$	24 57 15	33 44	29,9	62	$59\frac{1}{2}$	3	

1772	Time by No 1 H ′ ″	Altitude of the ☉'s L L	Longitude from the Cape	Latitude of the Ship S	Barometer	Thermom. C	Thermom. D	°	Remarks
♃ Oct 29	Anchored in Table Bay; and on November 4th, Mr Bayley compared the watch No 1 with the clock C, and continued to do so every day until the 11th from which comparisons he computed that it was then losing at the rate of 30 [illegible] a day on mean solar time; and that when it was compared with the clock on November the 4th, it was 1 h 49′ 9″,1 too slow for mean time at the Cape of Good Hope. Consequently, allowing the rate it went at, when at Greenwich, this watch will make the Cape of Good Hope 27° 3′ ¼ E of Drake's Island in Plymouth Sound or, allowing Drake's Island to lie in 4° 16′ ½ West, 23° 21′ ¾ East of Greenwich that is, 4′ 58″ ¼ more than the Observations of Messrs Mason and Dixon made at The watch No 2 went so imperfectly, for some time before our arrival at this place, that I apprehend it will be quite unnecessary to make any computation of its rate of going at the Cape, or the longitude shewn by it. It stopped entirely before we left the place.								
☉ Nov 22	We sailed out of Table Bay, and at noon Mr Bayley computed that the watch was 1 h 55′ 12″,6 too slow for mean time at the Cape of Good Hope; on which supposition, and that its rate of going is as above determined, the longitude of the ship will be computed in future								
☽ — 23	16 42 18	21 23½	0 33 48 W	35 13		67	61	3	
☿ — 25	3 39 56	16 4	1 49 52 W	37 43		66	62	3	
	17 4 9	28 36¼	2 34 0 W	38 40		66	60	4	
♃ — 26	Noon	71 55		39 0½					
♀ — 27	Noon	71 5		40 1½					
	3 30 8¼	18 35½	1 42 43 W	40 18		66½	53	4	
♄ — 28	Noon	70 22		40 54½		64	59		
☉ — 29	Noon	69 19		42 7½		63	52		
☽ — 30	Noon	69 11		42 45½		62	55		
	3 17 8¼	20 49½	0 24 6 W	42 33		63	52	4	
♃ Dec 3	3 35 37	17 51¼		44 46		57	46	4	
♀ — 4	Noon	66 27		45 43½		55½	45		
	- 21 42	27 19½	0 15 18 E	45 56		54	42	6	
♄ — 5	Noon	65 9		47 9½		53½	46		
☉ — 6	3 45 37	17 28½	0 14 34 E	48 39		50½	35	4	
☽ — 7	Noon	62 43		49 49		49	42		
☿ — 9	Noon	62 58		49 46		49	34		
	15 28 46	15 38½	2 54 4½ E	50 44		48	31½	6	
♃ — 10	Noon	61 46		51 3½		49	35		
♀ — 11	Noon	61 4		51 50					
	3 1 55	23 27½	3 20 12 E	52 5		47	33	4	
☿ — 16	17 21 49	34 25½	5 21 34 E	55 13		44	31	3	
♃ — 17	Noon	57 52		55 21					
	17 9 55	16 20¼	6 15 45 E	55 6		44	30½	3	
	Meridian Altitude	37 28	☽'s U L	55 5					
♄ — 19	3 45 13	15 42½	7 33 30 E	54 22		44	31½	3	
☽ — 21	Noon	59 09		54 7		45	34		
—	3 1 12	19 44½	11 26 48 E	54 34		45	31½	4	
	Noon	58 24		54 51½		45	31½		

1772.	Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East of the Cape. ° ′ ″	Latitude of the Ship S. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
♂ Dec. 22.	15 34 16	23 49½	13 44 15	55 20		45	32	3	
☿ —— 23.	Noon.	57 51		55 24		48	31½		
	16 59 18½	35 33½	13 37 0	56 19		46	32	6	
♃ —— 24.	Noon.	56 44		56 29½	29,35	50	34		
♄ —— 26.	Noon.	54 40	——	58 29⅔	29,35				Very good.
	3 34 32	17 52 1/11	8 29 31½	58 33	29,4	46	32	6	Ditto.
	4 22 0	12 8½	8 23 21	58 34	29,4	46	32	4	Ditto.
☉ —— 27.	Noon.	54 46:		58 20⅞	29,5	47	35		Hazy.
♂ —— 29.	Noon.	53 49:		59 11	29,1	49	33		Ditto.
☿ —— 30.	Noon.	53 34:		59 21⅔	29,15	50	34		Ditto.
			West.						
	2 21 14	32 4½	1 12 51	59 26	29,1	47	32	7	Ditto.
1773. ♄ Jan. 2.	Noon.	53 23:		59 17½					Very hazy.
	3 9 3	29 01½	7 23 27	59 01	29,3	47	31½	6	
	5 4 20	14 28½	7 26 15	58 56	29,55	46	31	4	
	Meridian Altitude.	19 33	☽'s U. L.	58 49½	29,5	46	31		
☽ —— 4.	Noon.	53 27		59 01	29,48	46	33		Hazy.
	9 53 0	51 59	Pocket Watch.	59 59	Ship's course E. by S. true, five miles an hour.				
☿ —— 6.	11 7 5	48 22							
			East.						
	14 10 51	11 17½	9 24 54	60 25	29,1	45	33	3	A little hazy.
	14 36 46	14 15½	9 30 30	60 27	29,1	45	33	4	Ditto.
	16 39 28	29 14½	9 47 40	60 30	29,1	47	33½	3	Ditto.
♄ —— 7.	Noon.	51 30½:		60 36	29,0	50	34		Ditto.
	15 24 46	21 59	13 47 0	61 13	28,95	45	32	4	Very clear.
	7 16 41	46 59	Pocket Watch.	61 19¾	Ship's true course E. S. E. ¼ E. distance run, 10¼ miles between the Observations.				
	9 17 30	50 30							
♀ —— 8.	14 49 39	19 8 1/10	16 41 30	61 33	28,91	45	32½	4	Pretty clear.
♄ —— 9.	Noon.	50 15		61 35	29,07	47	35		Good.
	6 27 19	43 34	Pocket. Wacth.	61 55	Correct course S. S. E. 3 miles an hour.				
	8 7 15	49 21							
☉ —— 10.	9 16 5	49 18	Ditto.	61 57	Course, &c. as before.				
	1 32 20½	27 3¾	18 49 30	62 10	29,1	46	33	4	Clear, and Good.
	Meridian Altitude.	14 30	☽'s L. L.	62 44					
	16 25 7	31 10½	19 40 57	63 4	29,2	48	32½	4	
	7 29 18	46 42	Pocket Watch.	63 22					
☽ —— 11.	9 21 24	47 31							
	13 39 22	13 31⅓	20 37 30	64 13	29,3	47	33	3	
♂ —— 12.	Noon.	47 08		64 14	29,35	50	35		Good.
	1 57 42	23 0 9/10	20 43 6	64 12	29,32	49	34	5	
☿ —— 13.	Noon.	46 59		64 13⅞	29,4	49	34		Good.
	16 46 6	33 23	21 30 01½	64 02	29,3	46	32½	3	
♃ —— 14.	Noon.	47 01		63 59½	29,25	49	35½		

1773	Time by No 1 H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East of the Cape ° ′ ″	Latitude of the Ship South	Barometer	Thermo C	Thermo D	[illegible]	Remarks
♃ Jan 14	2 48 16	16 48⅙	21 38 28½	63 57	9	47	33	3	
	15 39 39½	26 24½	21 52 25½	63 37	29,05	49	34	4	Good
♀ —— 15	Noon	47 15		63 35	29 05	50	37		Ditto
♄ —— 16	Noon	46 7		64 32	29,0	49	35		Ditto
	2 22 1	19 25 9/10	21 35 30	64 58	29,02	48	[illegible]	3	
☉ —— 17	Noon	43 53		66 34	28 9	47	32		Hazy
	25 0½	25 7¼	21 23 39	67 2	28,9	46	33	6	Hazy
☽ —— 18	Noon	44 16		65 58	28,95	46	33		Very hazy
	1 14 40	20	21 37 46½	65 38	28,9	45	32½	6	Bad horizon
	15 54 59	27 15½	22 7 9	64 45	28,95	46	33	3	Ditto, and high sea
♂ —— 19	Noon	45 32		64 29⅓	28,95	47	34		Good
☿ —— 20	0 57 8½	27 25½	22 37 10½	63 45	28,7	45	32½	3	A little hazy
	16 28 45	31 30⅓	23 29 30	62 57	29,0	46	33½	3	
♃ —— 21	1 46 24	21 10⅓	23 54 4½	62 28	28 75	47	31	3	
♀ —— 22	Noon	47 48		61 33¼	29 25	49	34		Good
	14 16 38	18 4½	25 58 3	60 25	29 25	47	34	6	Flying clouds
♄ —— 23	Noon	49 06		60 02½	29 1	47	[illegible]		Good
☉ —— 24	Noon	50 29		58 23¼	29,13	46	37		Hazy
	0 17 30⅓	28 25½	32 15 9	58 5	29,2	48	33	3	Bad horizon, and a
	2 39 7	9 14¼	32 23 31	58 1	29,2	48	33	4	high sea
♂ —— 26	15 55 0	33 15⅓	33 45 15	56 44	28 75	45½	33	4	
☿ —— 27	Noon	51 38		56 29⅓	29,0	47	35		
	0 47 38	22 6 9/10	34 3 21	56 12	29,1	47	33	3	Very good
	15 24 19	21 16	34 35 27	55 3	29,5	48	36	6	Ditto
♃ —— 28	Noon	53 20		54 31⅕	29,5	48	36		
♀ —— 29	Noon	55 8		52 27½	29,55	48	37		Hazy, and a great sea
♄ —— 30	15 10 11	31 11⅓	40 7 54	51 10	29 55	44	38	6	Very good
☉ —— 31	8 0 53	55 2	Pocket	50 48					Ship's true course north, at the rate of 5
	9 5 8	49 46	Watch.						miles an hour
♂ Feb 2	14 58 34	29 49⅞	40 35 32	49 10	30,0	49	41	5	Very good
	7 53 27	56 24	Pocket	48 32					The altitudes put down are correct altitudes
	9 20 21	47 27	Watch						of the ☉'s center
	0 39 41½	15 43½	43 7 34	48 1	30,15	54	44	5	Very good
	13 26 1	16 42½	44 8 4	48 42	30,1	51	43	6	Ditto
	5 35 55	53 39	Pocket	48 45					The altitudes are of the ☉'s center, cor-
	6 44 29	57 32	Watch						rected
☿ —— 3	14 59 36	30 59½	42 56 33	49 4	29,8	50	43	4	
♃ —— 4	Noon	50 38		49 15					
	0 57 40½	13 5	42 23 48	49 37	29,7	49	43	3	
	14 45 46	28 6⅙	42 1 52½	49 12	29,55	51	40	6	
♀ —— 5	Noon	56 30		49 3 9/10	29,5	52	41½		Good
	0 20 34	18 54⅙	42 2 1½	48 34	29,6	49	40½	6	
♄ —— 6	13 40 19	18 46½	44 4[illegible] 13½	48 38	29,45	50	43	6	Clear and good horizon
☉ —— 7	Noon	56 5		48 52½	29,8	52	44		Very good
	0 19 36	16 2⅓	45 58 27	49 4	29,85	48	42	6	Hazy
♂ —— 9	Noon	54 2		50 17½					Good

1773.		Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East of the Cape. ° ′ ″	Latitude of the Ship South. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
♂ Feb.	9.	13 33 16	19 39$\frac{1}{6}$	48 47 9	50 13	29,6	49	39	6	
☿ ——	10.	Noon.	54 7		49 52$\frac{5}{6}$	29,4	51	40		Good.
		12 48 29	12 39$\frac{1}{3}$	49 18 10	50 00	29,15	51	40	4	
♃ ——	11.	Noon.	53 22		50 18$\frac{2}{3}$	28,9	52	42		Good.
♀ ——	12.	12 53 49	16 00$\frac{1}{4}$	53 48 10$\frac{1}{2}$	51 00	29,6	47	37	6	
☉ ——	14.	Noon.	51 01		51 39$\frac{1}{4}$	29,5	51	39$\frac{1}{4}$		Good.
		21 23 22	33 2$\frac{2}{3}$	58 41 51	51 47	29,6	50	38	6	
		13 9 31	22 22$\frac{1}{4}$	60 57 21	52 10	29,65	47	37	6	
☽ ——	15.	Noon.	50 7		52 13	29,7	50	39		Good.
		14 27 45	34 53$\frac{1}{4}$	63 39 00	52 27	29,65	44	36	4	
☿ ——	17.	13 33 9	30 35$\frac{9}{10}$	70 39 6	52 54	28,95	46	37	6	
♃ ——	18.	Noon.	48 26		52 51$\frac{2}{3}$	29,05	46	40		Good.
		2 33 44 4 11 16	40 12 47 41	Pocket Watch.	52 35	Ship's course at right angles to the Sun's bearing at the first Observation.				
♀ ——	19.	11 18 29	15 11$\frac{1}{2}$	78 37 27	52 20	29,1	42	36	6	
♄ ——	20.	Noon.	48 19		52 16	29,05	49	36$\frac{1}{2}$		
		10 44 42	12 4$\frac{1}{3}$	82 16 48	52 18	29,5	51	40	6	
☉ ——	21.	Noon.	48 00		52 14	29,6	53$\frac{1}{2}$	41		
		21 42 52$\frac{1}{2}$	13 02$\frac{1}{2}$	83 3 3	52 9	29,55	48	38	3	
☽ ——	22.	13 11 7	34 56$\frac{3}{8}$	86 10 30	52 20	28,35	49	39	4	
♂ ——	23.	Noon.	47 13		52 17$\frac{1}{2}$	28,5	51	41$\frac{1}{2}$		Good.
		22 10 35$\frac{1}{2}$	5 10:	87 57 42	52 16	28,45	51	41$\frac{1}{2}$	4	Bad horizon.
		11 56 6	26 8$\frac{1}{3}$	88 57 42	52 9	28,3	53	40	6	
☿ ——	24.	Noon.	47 1		52 7$\frac{1}{2}$	28,5	54	43		Good.
		11 46 24$\frac{1}{2}$	26 34$\frac{1}{6}$	92 22 28$\frac{1}{2}$	51 47	29,35	52	41	6	
♃ ——	25.	Noon.	47 5		51 41$\frac{1}{3}$	29,45	53	45		Good.
		20 19 32	17 38$\frac{3}{8}$	94 6 48	51 35	29,65	49	40	5	
		10 28 55	17 9$\frac{2}{3}$	96 9 39	51 21	29,95	53	43	6	
♄ ——	27.	9 26 44	12 3	104 3 30	50 29	29,2	55	43	6	
☉ ——	28.	Noon.	47 15		50 24	29,45	54	43$\frac{1}{2}$		Good.
		19 31 31	16 50$\frac{2}{3}$	105 56 49	50 15	29,3	53	54	4	
		9 52 48	18 20	107 25 21	49 24	29,55	54	47	6	
☿ March	3.	19 29 37	10 52$\frac{1}{3}$	114 19 34	45 56	29,5	55	52	5	
		8 40 53$\frac{2}{3}$	11 27$\frac{1}{3}$	115 24 15	45 14	29,7	57	49	6	
♃ ——	4.	Noon.	51 20		44 48					
		18 17 34	21 45	116 25 30	44 32	29,65	54	51	4	
		Regulus.	32 40	Meridian Altitude.	44 21					
		9 45 16	24 41$\frac{3}{4}$	118 18 48	44 08	29,85	59	52	6	
♀ ——	5.	Noon.	51 42		44 3$\frac{1}{3}$	29,75	59	56		Good.
		9 4 36	19 54$\frac{1}{2}$	121 44 30	43 55	29,8	58	53	4	
♄ ——	6.	Noon.	51 24		43 57$\frac{1}{2}$	29,6	58	52		
		18 15 43	16 37$\frac{1}{2}$	123 29 21	43 54	29,45	58	51$\frac{1}{2}$	4	
		8 33 55$\frac{2}{3}$	16 3	124 13 3	43 46	29,7	56	51	6	
☉ ——	7.	Noon.	51 13		43 46$\frac{1}{3}$	29,75	59	52$\frac{1}{2}$		
		18 17 14	14 39$\frac{1}{6}$	125 12 24	13 47	29,9	59	54$\frac{1}{2}$	6	

1773	Time by W. H ' "	Altitude of the ☉'s L. L.	Longitude East of the Cape	Latitude of the Ship South	Barometer	Therm. C	Therm. D	No. of Obs.	Remarks
☉ March 7	9 15 27	24 49½	126 33 37	43 45	29,9	59	54	6	
☽ — 8	Noon	50 55		43 40$\frac{3}{5}$	29,9	59	55		Good
♂ — 9	Noon	50 27½		43 45½	30,0	59	57		A little hazy
	17 26 33	20 11	129 1 31	43 42	30,1	57	54	6	The S. point of Van Diemen's Land N. 5 miles
	9 11 21	26 15½	130 22 49	43 22	30,15	64	56	6	At anchor off the entrance of Adventure Bay
♃ — 11	Noon	50 1	Dip 2 0	43 22½	29,95	62	57		In the Entrance of Adventure Bay
♀ — 12	Noon	49 35	Dip 2 0	43 24	30,0	65	58		In the bottom of Adventure Bay
☽ — 15	Noon	48 31		43 20½					At the entrance of Adventure Bay
	17 42 13½	14 01½	130 38 43½	43 23	29,5	61	51	6	Off the entrance of Adventure Bay
	7 34 51	9 15	131 23 53	43 34	29,7	65	52	6	Off Van Dieman's L.
♂ — 16	Noon	48 19½		43 8¼	29,65	64	53		About four or five leagues off shore
	8 26 43	18 46½	131 32 30	42 10	29,7	64	53	4	Van Diemen's Land from S. W. to N. W. ½ W.
☿ — 17	Noon	49 20		41 44⅓	29,9	64	54		St. Patrick's Head, W. N. W. 4 leagues
	7 37 34	10 5½	131 57 8	40 47	29,85	62	53	6	The land bore from W. S. W. [illegible] to N. W. by N.
♃ — 18	Noon	50 19		40 21½	29,95	65	54½		The land bore from S. to N. W. by N. 7 leagues
	8 5 52	15 17$\frac{9}{10}$	131 33 55	39 24	30,15	63	57	6	Saw the [illegible] bearing W. S. W. [illegible] distance 11 leagues
♀ — 19	Noon	50 56		39 21	30,05	64	59		A little hazy
	7 39 19	11 23	133 21 6	39 20	30,15	65	60	4	
♄ — 20	Noon	50 31		39 22½	30,1	66	61		
	17 19 43	14 37½	133 57 41	39 20	30,15	63	56	6	
☉ — 21	Noon	50 19		39 16½	30,15	65	59½		
	6 58 25	5 24½	136 7 30	39 32	30,1	64	57	6	
♂ — 23	8 30 59½	24 26½	138 32 45	38 55	30,1				
	9 38 11	35 39							The Sun bore N. E. [illegible] E. at the first Observation and the ship's course was S. by [illegible] 3 miles an hour.
	11 25 40	47 46		38 58					
☿ — 24	Noon	49 21½		38 57½	30,05	61	58		
	7 34 31	15 10½	140 25 10	39 17	30,05	61	58	3	
♃ — 25	Noon	48 34		39 20¾	30,1	62	60		
	17 0 39	10 57	141 4 45	39 26	30,3	63	60	6	
	7 22 0	13 58½	142 14 41	39 58	30,25	65	61	6	
♀ — 26	Noon.	47 26		40 6½	30,25	63	61½		
	16 49 51	10 51	143 11 31	40 12	30,35	62	59	6	
	7 8 19	12 32½	144 0 6	40 13	30,45	66	61½	6	
♄ — 27	Noon	46 54½		40 14½	30,5	65	61		

1773.	Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East of the Cape. ° ′ ″	Latitude of the Ship South. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
♄ March 27.	16 59 51	7 $44\frac{3}{8}$	144 21 25	40 16	30,5	63	60	4	
☉ —— 28.	Noon.	46 30		40 $15\frac{8}{11}$	30,4	66	64		
	16 13 25	15 28	144 54 21	40 18	30,4	64	62	6	
	6 59 12	11 $57\frac{1}{4}$	146 0 24	40 35	30,55	66	61	6	
☽ —— 29.	Noon.	45 40		40 $42\frac{1}{2}$	30,5	67	64		
	16 29 11	10 $50\frac{7}{8}$	146 41 30	40 42	30,45	66	64	5	
	6 39 16	9 $22\frac{1}{4}$	147 48 14	41 7	30,55	67	62	6	
♂ —— 30.	Noon.	44 46		41 13	30,45	67	64		
	16 0 20	14 $3\frac{1}{4}$	148 40 0	41 17	30,55	65	64	6	
	9 26 5	36 25		41 33	☉'s bearing, at the first Observation, N. N. E. ½ E.; ship's course E. ½ N., at the rate of four miles an hour.				
	11 5 30	43 48							
♀ April 2.	8 21 $32\frac{1}{3}$	30 $49\frac{1}{8}$	155 16 35	40 46	29,5	68	62	6	Land S. of Cape Farewell, in New Zealand, N. E. by E. ½ E.
♄ —— 3.	Noon.	43 45		40 $41\frac{1}{3}$	29,6	63	60		Cape Farewell E. N. E. ½ E. Rocky Point S. by E. ½ E.
	15 35 23	12 $10\frac{1}{4}$	155 42 34	40 32	29,6	63	60	6	Off Cape Farewell.
	6 9 44	9 $59\frac{3}{5}$	156 42 28	40 18	29,65	64	63	6	In the entrance of Cook's Straits.
☉ —— 4.	Noon.	43 $38\frac{1}{4}$		40 $16\frac{1}{4}$					Stephens's Island S. E. distant 4 or 5 leagues.
	15 17 $51\frac{1}{4}$	14 $7\frac{4}{5}$	156 58 6	40 20	29,8	$66\frac{1}{2}$	63	6	Stephens's Island S. E. by S. and Blind Bay S. W. by S.
	5 59 $56\frac{1}{4}$	9 $19\frac{1}{4}$	157 34 $1\frac{1}{4}$	40 33	29,8	66	63	6	In Cook's Straits.
☽ —— 5.	Noon.	42 $48\frac{1}{2}$		40 $52\frac{1}{4}$					In Admiralty Bay.
	15 32 24	10 34	157 31 47	40 55	30,0	66	61	6	Point Jackson S. E. ½ E. about 3 leagues dist.
	6 4 32	9 $19\frac{1}{4}$	157 47 52	41 03	30,05	66	63	6	Off the entrance into Q. Charlotte's Sound.
♂ —— 6.	Noon.	42 $15\frac{1}{2}$		41 $03\frac{7}{8}$	30,15	65	$61\frac{1}{2}$		In the entrance of Q. Charlotte's Sound.
☿ —— 7.	20 28 2,	or 9 h. 39′ 24″ apparent time; end of the lunar eclipse.							
	20 31 4,	or 9 h. 42′ 26″ apparent time; the ☽ was clear of the penumbra.							
	6 22 $2\frac{3}{5}$	12 $15\frac{3}{10}$	158 1 9	41 $5\frac{3}{8}$	30,1	66	52	8	In Q. Charlotte's Sound.
♄ —— 10.	Noon.	40 $46\frac{1}{2}$		41 $5\frac{7}{8}$	29,85	56	56		Ditto.

♂ —— 20. Mr. Bayley compared the Watch with the Astronomical Clock, by which the times of equal altitudes of the Sun had been noted, (See p. 47.) and it appears from thence, that the Watch was 13 h. 16′ 23″,4 too slow for mean time that day at noon, at Queen Charlotte's Sound. Mr. Bayley found it too slow for mean time at the Cape of Good Hope, on ☉, November 22, 1772, at noon, by 1 h. 55′ 12″,6; therefore, allowing it to have lost ever since, at the rate it was then going, (20″,3 a day) it ought to be too slow for mean time at the Cape, on April the 20th, 1773, at noon, by 2 h. 45′ 28″,5; and of course it will make the difference of Longitude between this place and the Cape of Good Hope 157° 43′ 43″¼, or 176° 6′ 58″¼ between this place and Greenwich.

If we compute all the way from England, at the rate it was going at Greenwich it will make this place 199 59 39 East of Drake's Island, in Plymouth Sound or 195 43 31½ East of Greenwich

June 7th we left Queen Charlotte Sound on which day at noon Mr Bayley calculates that the Watch was 1, h 6 r 5 too slow for mean time at that place on which supposition, and that its rate of going was losing 25,66 a day on mean time, (See p 48) he computed the following Longitudes of the ship He moreover supposes, that the true Longitude of Queen Charlotte's Sound is 173 56 30 East, which is what his Observations, made there this time give it

1773		Time by No 1 H M S	Altitude of the ☉ L L	Longitude East of Greenwich °	Latitude of the Ship South	Barometer	Thermom. C	Thermom. D	No of	Remarks
☽	June 7	6 29 16	6 26½	174 23 3	41 10½	30 1	59	49½	6	
☿	—— 9	6 11 48	5 4½	179 0 4½	43 49⅗	29,6	59	53	6	
♄	—— 12	7 15 18½	13 14⅓	184 31 24	46 17	29,95	60	50	6	
☽	—— 14	Noon	19 50		46 43½	29 6	61	48½		A little hazy
♂	—— 15	Noon	19 45		46 46½	29 7	61	49		Good
		12 29 20	9 18	185 2 55	46 51	29 8	60	48	6	
♃	—— 17	Noon	20 6		46 19½	29,8	59	49		Good
♀	—— 18	Noon	20 35		45 49⅞	29 9	59½	49		Good
		5 57 5	7 41	189 40 50	45 15	30,1	58½	47½	6	
		7 19 2 10 5 27	16 12 20 17		45 12¼					O N N E at first Observation Ship's course E N E at the rate of 3½ miles an hour
♄	—— 19	8 38 32	21 34							
☉	—— 20	9 38 0	21 24		44 30					O N ½ E at first Observation Ship's course N E by E ½ E at the rate of three miles an hour
☽	—— 21	5 54 1	10 44¼	195 34 40	44 30	30,4	59	51	5	
♂	—— 22	Noon	21 50		44 32½	30,15	59½	52		
☿	—— 23	Noon	21 47		44 35 $\frac{9}{10}$	30,0	62	50		
♀	—— 25	5 42 11	11 3	196 [illegible] 45	42 58	29,45	62	52	6	
♄	—— 26	Noon	23 [illegible]		43 5½	29 3	67	55		
☉	—— 27	Noon	24 5		42 23⅓	29,35	63	53		
		8 36 44	11 29	197 40 12	42 24	29,4	62	52	5	Bad horizon
☽	—— 28	Noon	24 8		42 24	29,35	64	53		
		4 37 54	3 49 $\frac{7}{10}$	198 24 52	42 40	29,45	62	53	6	Hazy
♂	—— 29	Noon	23 49		42 45	29 35	67	53		
		11 41 56	11 28	198 24 54	42 52	29,55	70	52	6	
		5 30 1	11 11⅓	199 13 12	42 56	29,55	63	51	6	
☿	—— 30	Noon	23 39		42 59½	29,45	63	51		
		5 47 17	14 5	201 11 21	43 7	29,7	62	49	6	
♃	July 1	Noon	23 36		43 5	29,65	63	50		
		4 38 39	6 26	202 44 40	43 0	29,8	62	49	6	
♀	—— 2	Noon	23 47		42 59	29,75	64	51		
		11 50 32	7 59	202 59 41	43 0	29,85	66	50	6	

1773.		Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East of Greenwich. ° ′ ″	Latitude of the Ship South. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
♀	July 2.	4 36 44	6 $52\frac{1}{6}$	204 1 39	43 9	29,65	60	$47\frac{1}{2}$	6	
♄	—— 3.	Noon.	23 37		43 $13\frac{1}{2}$	29,8	67	$53\frac{1}{2}$		
		11 38 $31\frac{1}{2}$	8 $32\frac{1}{12}$	204 39 30	43 17	29,65	64	51	6	
☉	—— 4.	Noon.	22 58		43 $57\frac{1}{2}$	29,9	59	$50\frac{1}{2}$		
		11 24 32	9 $39\frac{1}{6}$	205 23 34	43 47	29,9	61	$48\frac{1}{2}$	6	
☽	—— 5.	4 32 37	9 $20\frac{1}{2}$	207 59 8	42 17	29,75	59	52	6	
♂	—— 6.	Noon.	25 1		42 $5\frac{1}{2}$	29,75	$61\frac{1}{2}$	$52\frac{1}{2}$		
		11 30 $31\frac{1}{2}$	8 $43\frac{1}{2}$	208 16 25	41 52	29,85	59	49	6	
		4 5 $24\frac{1}{2}$	6 $43\frac{1}{3}$	208 50 6	41 21	29,6	$59\frac{1}{2}$	52	6	
☿	—— 7.	Noon.	25 55		41 $17\frac{1}{2}$					
		4 7 $34\frac{2}{3}$	7 $43\frac{1}{6}$	210 22 54	41 51	29,55	59	52	6	
		6 40 30	23 33	Pocket Watch.	41 57	☉ north at the first Observation. Ship's course E. S. E. at the rate of six miles an hour.				
♃	—— 8.	8 34 15	24 27							
		4 17 50	10 $3\frac{2}{3}$	212 43 48	42 33	29,75	$59\frac{1}{2}$	$52\frac{1}{2}$	5	
♀	—— 9.	Noon.	24 48		42 $38\frac{1}{6}$	29,9	60	$51\frac{1}{2}$		
		11 16 15	7 $35\frac{1}{6}$	213 12 16	42 43	29,85	60	$51\frac{1}{2}$	6	
		4 6 $3\frac{2}{3}$	9 $25\frac{2}{3}$	215 21 13	43 28	29,8	58	55	6	
		4 34 49	13 7	Pocket Watch.	43 $38\frac{1}{3}$	☉ N. N. E. ½ E. at the first Observat. Ship's course E. S. E. ½ E. Dist. run 20 miles.				
♄	—— 10.	8 13 16	23 1							
		4 2 $3\frac{1}{2}$	10 $13\frac{1}{2}$	217 43 30	43 32	30,0	57	46	5	
☉	—— 11.	Noon.	24 11		43 $30\frac{1}{6}$	30,15	61	47		
		3 40 46	8 $43\frac{11}{12}$	219 34 33	43 16	30,25	59	47	6	
☽	—— 12.	Noon.	24 36		43 $13\frac{1}{2}$	30,3	$59\frac{1}{2}$	$51\frac{1}{2}$		
		3 15 56	6 16	220 44 37	43 0	30,25	60	55	6	
♂	—— 13.	Noon.	25 0		42 $57\frac{1}{3}$					
♃	—— 15.	4 3 53	15 $39\frac{1}{2}$:	223 39 55	41 34	29,35	$55\frac{1}{2}$	47	6	A high sea.
♀	—— 16.	Noon.	27 2		41 23	29,4	62	$50\frac{1}{2}$		
		3 33 $20\frac{1}{2}$	14 $31\frac{1}{3}$	226 4 18	39 58	29,6	$50\frac{1}{2}$	45	6	A rough sea.
♄	—— 17.	Noon.	28 52		39 $42\frac{1}{3}$	29,8	52	44		
		2 48 $54\frac{1}{2}$	9 $31\frac{1}{6}$	226 35 56	38 4	30,2	51	45	6	
☉	—— 18.	Noon.	30 53		37 $51\frac{2}{3}$	30,25	61	$50\frac{1}{2}$		
		10 51 59	6 $40\frac{1}{2}$	226 37 45	37 41	30,35	56	$47\frac{1}{2}$	6	
☽	—— 19.	Noon.	32 25		36 $30\frac{1}{2}$	30,2	61	$54\frac{1}{2}$		
		10 49 41	7 40	226 55 10	36 20	30,1	57	55	6	
		2 34 17	9 $7\frac{7}{8}$	226 48 45	35 36	30,25	$58\frac{1}{2}$	$54\frac{1}{2}$	6	
♂	—— 20.	Noon.	33 47 :		35 $19\frac{1}{2}$	30,15	62	55		Flying clouds.
♃	—— 22.	Noon.	38 26		31 $3\frac{1}{2}$	29,75	65	64		
		11 20 48	6 $11\frac{1}{3}$	225 24 36	30 46	29,7	67	64	3	
		2 23 47	9 $48\frac{2}{3}$	225 11 30	29 33	29,85	66	$62\frac{1}{2}$	6	
♀	—— 23.	Noon.	40 20 : :		29 $21\frac{1}{3}$	29,9	66	64		Very hazy.
☉	—— 25.	7 39 19	38 47	Pocket Watch.	29 46	☉ N. W. ½ W. at second Observ. Ship's course N. E. distance run 9 miles.				
		9 32 36	26 19							
		2 6 $50\frac{1}{3}$	7 $2\frac{1}{12}$	224 40 8	29 3	29,85	70	66	6	
☽	—— 26.	Noon.	41 26		28 $53\frac{1}{6}$	30,0	70	68		
		11 24 54	6 $54\frac{1}{2}$	224 58 31	28 34	29,95	70	67	6	

1773	Time by No 1	Altitude of the ☉'s L. L.	Longitude East of Greenwich	Latitude of the Ship South	Barometer	Thermom. C	Thermom. D	No of Chr	Remarks
	H ″	′							
☽ July 6	2 11 12	9 1½	225 13 15	8 0	29 95	71	68	6	
♂ —— 27	Noon	42 57		27 55½	30 0	71	69		
	11 16 54	8 36¼	225 13 42	27 51	29 9	69	67	6	
☿ —— 8	Noon	43 4		27 42¼	30 1	70	69		
♃ —— 9	Noon	43 31		27 29½	30,0	72	70		
	10 55 47	13 14¾	224 12 53	27 20	29,95	70	68	4	
♀ —— 30	Noon	44 10		27 3½	30,0	72½	71		
	11 11 56	9 59¼	225 13 15	26 57	30,0	73¼	69	6	
♄ —— 31	Noon	45 9		26 19¾	29,75	70½	67		
	11 13 4	9 50$\frac{1}{3}$	225 46 0	26 10	29,8	71	67¼	6	
☉ Aug 1	1 56 16	10 33¼	226 48 9	23 28	30,1	69	67	6	
☽ —— 2	Noon	48 45		23 14½	30,05	70½	70		
	11 32 2	6 29¼	226 42 42	23 5	30,0	69	68½	6	
	1 34 12	6 46$\frac{7}{8}$	227 2 31	22 26	29,9	71	71	6	
♂ —— 3	Noon	50 4		22 10$\frac{4}{5}$	30,15	72	72		
	2 10 25	15 10$\frac{1}{6}$	227 17 19	21 34	30 1	72½	71½	6	
☿ —— 4	Noon	51 8		21 22¼	30,05	74	75		
	1 31 31	8 22½	228 21 48	20 48	30 0	74	76	6	
♃ —— 5	Noon	52 7		20 39¼	30,15	77	77		
	1 24 2	8 10½	229 21 0	19 54	30 05	77	76	6	
♄ —— 7	Noon	54 28		18 51$\frac{7}{8}$	30,1	74	71		
	3 2 32	27 29$\frac{3}{10}$	226 3 34	18 14	30,1	74	76	6	
☉ —— 8	Noon	52 32		18 4½	30,05	75	6		
	2 38 28½	21 3¼	223 51 22	17 45	30 1	75	75	6	
☽ —— 9	Noon	56 12		17 41½	30,25	75½	75		Hazy
	2 42 50	20 37½	221 47 0	17 25	30,25	76½	75	6	
♂ —— 10	Noon	56 47		17 23$\frac{3}{5}$	30, 5	77½	7[illegible]½		
	2 31 27	16 46	219 52 0	17 17	30 05	77	77	6	
☿ —— 11	Noon	57 12		17 16½	30,1	77	79		
	2 48 9	19 22	218 17 8	17 12	30,0	77	77	6	
♃ —— 12	Noon	57 37		17 10	30,0	77½	79½		
	2 0 30½	7 51¾	217 4 10	17 14	30 1	77	78½	3	
♀ —— 13	Noon	57 49		17 14¼	30,1	78	80		
	2 15 29	10 6½	215 31 43	17 17	30,2	79	79	6	
♄ —— 14	Noon	58 6		17 17½	30,0	78½	79½		
	12 16 9	9 11½	214 44 46	17 20	30 15	78	77½	4	
	2 11 50½	7 50$\frac{1}{5}$	213 46 50	17 41	30,1	78	78½	6	
☉ —— 15	Noon	57 56		17 46½	30,05	78½	80		
	2 32 37½	11 46¾	212 43 15	17 48				6	
☽ —— 16	Noon	58 15		17 46					
—— 17	Noon	58 41		17 39$\frac{1}{3}$					
♃ —— 19	Noon	9 14		17 44$\frac{7}{8}$					
♀ —— 20	Noon	59 33½		17 44½					Made in Oaiti-peha Bay on the N W side of the lesser peninsula of Otaheite
	11 25 43	21 41	213 5 12	17 44¾				6	
♄ —— 21	Noon	59 53¼		17 45					
	11 47 10	10 50¼	213 9 46	17 44¾				6	

1773.	Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East of Greenwich. ° ′ ″	Latitude of the Ship South. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
☿ Aug. 25.	Noon.	61 36		17 $24\frac{1}{2}$					
	12 4 55	12 $47\frac{2}{3}$	213 8 6	17 27				6	Point Venus W. 3 or 4 miles

♃ —— 26. The Watch was carried on shore at Point Venus, and on the 27th compared with the Astronomical Clock, by which the times of equal altitudes had been noted: (See page 52) from whence I have computed that the Watch was too slow for mean time, at Point Venus, on August the 27th, at noon, by 16h. 48′ 44″,7, and of course it will place Point Venus 39^d 17′ 35″ to the Eastward of Queen Charlotte's Sound, in New Zealand. By allowing its Greenwich rate, I find that it makes Point Venus 253° 30′ 36″ East of Drake's Island, in Plymouth Sound; that is, 249° 14′ 28″ East of Greenwich.

Mr. Bayley's computations make the Watch to be losing here at the rate of $46''\frac{1}{3}$ a day, and too slow for mean time, on ☽ August the 31st, at noon, by 16h. 51′ 51″; on which suppositions, and that the true Longitude of Point Venus is 210°. 27′ 30′ East of Greenwich, he has computed the following Longitudes of the Ship.

1773.	Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East of Greenwich. ° ′ ″	Latitude of the Ship South. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
♀ Sept. 3.	Noon.	65 $28\frac{1}{3}$		16 $45\frac{1}{3}$	30,0	77	77		In Owharre Harbour, on the West side of the Island Huaheine.
	12 11 12	11 $52\frac{1}{6}$	208 50 50		30,1	76	76	6	
♄ —— 4.	Noon.	65 $50\frac{1}{4}$		16 $44\frac{5}{6}$	30,1	$78\frac{1}{4}$	$78\frac{1}{4}$		
	12 1 21	14 $2\frac{1}{3}$	208 51 42		30,0	76	77	6	
☉ —— 5.	12 8 44	12 $10\frac{1}{3}$	208 51 16		30,0	$77\frac{1}{4}$	79	4	
☽ —— 6.	12 28 11	7 $27\frac{1}{3}$	208 51 14		30,0	78	77	6	
♂ —— 7.	Noon.	66 43		16 $59\frac{1}{3}$					Off the S. end of Uliatea.
	12 13 13	11 $17\frac{2}{3}$	208 8 39	16 58	30,1	$77\frac{1}{2}$	77	6	
♃ —— 9.	11 51 43	16 $3\frac{1}{4}$	208 22 9	16 $45\frac{1}{3}$	30,1	79	78	6	In Ohamaneno Harbour, on the West side of Uliatea.
☉ —— 12.	11 16 $55\frac{1}{3}$	23 $50\frac{1}{3}$	208 9 10	16 $45\frac{1}{3}$	30,2	79	80	6	
♃ —— 16.	4 19 14	46 $11\frac{1}{6}$	208 17 $37\frac{1}{2}$	16 47	30,1	77	$78\frac{1}{4}$	6	
♀ —— 17.	Noon.	70 41		16 $50\frac{1}{2}$	30,05	78	$78\frac{1}{4}$		
	12 11 $37\frac{2}{3}$	10 $48\frac{2}{3}$	207 32 19	16 56				3	
♄ —— 18.	Noon.	70 39		17 $15\frac{9}{10}$	29,9	77	$78\frac{1}{4}$		
	12 21 $53\frac{2}{3}$	9 $31\frac{1}{4}$	206 17 52	17 23	30,1	77	$77\frac{1}{2}$	3	
	2 5 11	13 $31\frac{1}{3}$	205 53 27	17 36	29,95	$77\frac{1}{2}$	$77\frac{1}{2}$	6	
☉ —— 19.	Noon.	70 $38\frac{1}{2}$		17 $39\frac{1}{6}$	29,95	78	$78\frac{1}{2}$		
	2 21 51	16 45	204 45 46	17 55	29,95	77	$76\frac{1}{4}$	6	
☽ —— 20.	Noon.	70 40		18 $1\frac{1}{3}$	30,0	78	$80\frac{1}{4}$		
	2 23 29	16 $42\frac{1}{6}$	203 52 46	18 20	29,95	77	78	6	
♂ —— 21.	Noon.	70 42		18 $23\frac{1}{5}$	29,9	80	80		
	12 28 34	10 $3\frac{1}{3}$	203 32 33	18 27	30,0	77	$76\frac{1}{4}$	6	
☿ —— 22.	Noon.	70 49		18 $39\frac{1}{3}$	30,0	78	77		
♃ —— 23.	Noon.	70 46		19 $5\frac{9}{10}$	30,0	$74\frac{1}{4}$	74		
	2 47 $22\frac{1}{4}$	19 $41\frac{1}{5}$	200 0 36	19 22	29,9	$75\frac{1}{4}$	$73\frac{1}{4}$	6	
♀ —— 24.	Noon.	70 47		19 $28\frac{1}{4}$	30,05	76	$74\frac{1}{2}$		
	12 37 25	11 $43\frac{3}{4}$	199 3 45	19 36	30,0	$73\frac{1}{2}$	$72\frac{1}{4}$	6	
♄ —— 25.	Noon.	70 47		19 $52\frac{1}{5}$	30,05	75	$74\frac{1}{2}$		
☉ —— 26.	12 42 11	13 $56\frac{9}{10}$	195 9 10	20 33	29,9	71	$71\frac{1}{2}$	5	
☽ —— 27.	Noon.	70 47		20 $39\frac{1}{3}$	29,95	72	$72\frac{1}{4}$		
♂ —— 28.	Noon.	70 46		21 $3\frac{9}{10}$	30,00	72	74		
	3 53 53	27 $43\frac{1}{3}$	190 10 29	21 25	30,0	74	72	6	

1773		Time by No 1	Altitude of the ☉'s L. L	Longitude East of Greenwich	Latitude of the Ship South	Barometer	Thermom C	Thermom D	No. of Obs	Remarks
		H ′ ″	° ′	° ′ ″	° ′					
☿	Sept 29	Noon	70 45		21 28½	30,1	73	72		
		13 7 18¼	13 3⅛	189 13 36	21 27	30,15	72	70	6	
♃	—— 30	Noon	71 25		21 11$\frac{9}{10}$	30,0	71	70		
♀	Oct 1	Noon	71 40		21 20⅓	30,0	70	72		
		12 41 59	22 14$\frac{9}{10}$	185 33 40	21 19	30,0	70	69	6	
♄	—— 2	Noon	72 20¼		21 21¼	30,05	71½	71½		At anchor under the
		13 24 9	12 49¼	185 6 32	21 21¼	30,05	70	68½	6	N W side of Tongataboo,
☽	—— 4	Noon	73 6		21 4	30,05	72½	72½	2	or Middleburgh
♂	—— 5	13 2 16½	17 55	184 41 34		30,05	73	70	3	At anchor off the North
☿	—— 6	Noon	73 51¼		21 5	29,95	74	73	2	Point of Tonga Tabu,
		6 56 45	66 6¼	184 44 9		30,1	72½	71½	10	or Amsterdam
♃	—— 7	Noon	74 16		21 4⅓	30,0	73½	71½		
		13 20 28⅓	13 26½	184 44 45	21 9	30,0	71½	71	6	
♀	—— 8	Noon	72 41		22 1½	29 95	75	71½		
		4 14 46	31 26	184 49 0	22 21	30,05	73	70	6	
♄	—— 9	Noon	73 40		22 25½	30,0	73	71		
		3 9 16¼	16 6	183 59 10	22 37	30,0	72	69½	10	
		5 22 46⅓	46 29¼	184 2 21	22 40	30,05	73	70	6	
☉	—— 10	Noon	73 43		22 45¼	30,05	71	69		
		5 19 34	44 40½	182 40 10	23 47	30,05	70	67	3	
☽	—— 11	Noon	72 57		23 53$\frac{7}{8}$	30,0	70	68		
		3 52 11	24 21¼	182 41 0	25 7	30,05	70	67½	3	
♂	—— 12	Noon	71 43		25 30$\frac{7}{8}$	30,1	71	68		
		3 56 53¼	24 53¼	180 48 52	26 53½	30,2	70½	68	6	Flying Clouds
☿	—— 13	Noon	70 25		27 11⅓	30,2	70	68		
		3 26 51	17 58⅓	180 7 41	28 24	30,1	70	66	3	
♃	—— 14	2 53 27	10 47$\frac{1}{6}$	179 31 54	29 48	30,15	70	65½	6	
♀	—— 15	Noon	68 6		30 15½	30,2	69½	67½		
♄	—— 16	Noon	67 5		31 38½	30,2	68	66½		
		5 17 34	41 34½	179 36 33	32 39	30,15	68½	67	6	
☉	—— 17	Noon	66 22½		32 43½	30,2	69	67½		
		14 3 12½	8 39½	179 18 0	32 50	30,15	68	65½	3	
☽	—— 18	Noon	65 40		33 47⅓	30,0	68	67		
♂	—— 19	Noon	63 54		35 54⅓	29,85	69	65½		
		3 39 50	22 16½	179 33 48	37 24	29,65	65½	57	6	
☿	—— 20	Noon	62 26½		37 44½	29,65	65½	60		
		13 5 42	20 41½	179 12 24	38 6	29,65	65	59	6	
		3 44 44	22 45$\frac{5}{6}$	178 37 51	38 58	29,6	66	57¼	6	
♃	—— 21	Noon	61 26		39 6⅓	29,25	64	64		New Zealand from W S
		10 56 27½	45 30½	178 0 32	39 10	29,45	65	60	6	W ½ S to N W by N
		13 41 34½	14 57⅓	177 38 42	39 17	29 45	64¼	59	3	Table Cape due North
		2 49 4½	10 54$\frac{1}{12}$	176 37 0	39 53	29 55	62	56	6	
♀	—— 22	Noon	60 39		40 15½	29,2	63	59		Black Head N W and Cape Turnagain S 33 W

1773			Time by No 1 H ′ ″	Altitude of the ☉ s L. L ° ′	Longitude East of Greenwich ° ′ ″	Latitude of the Ship South ° ′	Barometer	Thermom. C	Thermom. D	No of Obs.	Remarks
♀	Oct.	22	11 33 49½	39 38	176 30 10	40 30	29,2	65	57	3	Between Cape Turnagain and the Black Head.
			12 43 2½	26 58⅙	176 28 21	40 30	29,6	62	58	6	
♄	——	23	Noon	60 22		40 53½	29,55	64	56		Cape Turnagain N N W ½ W and Flat Point S W ½ W
			10 53 19½	46 36	176 9 37	40 51	29,65	64	55½	6	
			13 18 26½	20 54½	176 15 43	40 53½	29,5	63½	55	6	
☉	——	24	11 12 5	43 38⅛	175 42 51	41 30	29,4	64	60	6	Cape Palliser W S W ½ W dist 8 or 9 leagues
			13 4 43½	23 34	175 37 56	41 32	29,5	62	58	6	Cape Palliser due West about 9 or 10 leagues
☽	——	25	Noon	59 39		42 18					A little hazy
			4 11 1	26 30	175 2 23	42 55	29,65	62	55	6	
♂	——	26	Noon	59 45		42 32⅙	29,6	60	54		
☿	——	27	Noon	60 21		42 17½	29,65	61	56		Hazy
			4 39 39	32 27½	174 52 22½	42 19	29,5	61	53	6	
♃	——	28	Noon	60 40		42 18½	29,25	62	56		
			3 26 51½	19 41½	175 9 39	42 00	29,6	60	54	6	
♀	——	29	Noon	61 28		41 50¼					A little hazy
			14 30 22½	8 37½	174 48 10	41 48	29,6	59	54½	3	
♄	——	30	Noon	61 44		41 53½	29,55	59	60		
☉	——	31	Noon	61 26		42 31	29,7	64	64		
			14 18 47	10 50⅛	174 57 32	42 32	29,35	57	55	6	
☽	Nov	1	3 24 3½	20 30	175 1 57	41 23	29,5	60	58	6	
♂	——	2	Noon	62 59		41 37½	29,65	61	57		
♀	——	3	Noon	63 35		41 20½	29 75	60	53		
			13 27 26½	20 22	174 56 46	41 18	29,65	59	54	6	
♃	——	4	14 21 40½	11 6½	173 59 46	41 38	29,6	59	59	6	
♄	——	6	Noon	64 13		41 37⅛	29,6	54	52		
☉	——	7	Noon	66 27		39 41⅙	29,75	57	53		
☽	——	8	Noon	67 24		39 1½	29,75	62	63		Table Cape S W b W and Gable End Foreland N W b N
♂	——	9	2 35 54	14 59⅙	176 53 27		29,95	61	57	6	In Tolaga Bay
☿	——	10	Noon	68 38⅙		38 21	29,95	61½	57	2	
			2 8 2	10 1	176 55 24		29,9	60	56	12	
♃	——	11	Noon	68 56½		38 20	29,8	61	57		Off the mouth of Tolaga Bay
☽	——	15	2 19 1	13 26	176 56 8		29,8	62	54	6	In Tolaga Bay
♂	——	16	Noon	70 04		38 31	29,95	61	64		
			3 24 53½	26 10½	176 29 1½	39 34	29,8	67	62	6	
☿	——	17	Noon	69 8		39 42½	29,65	68	67		
			2 53 13½	20 9½	176 8 57	39 52	29,8	69	63	6	
♃	——	18	Noon	69 6		39 59	29,65	68	68		
			12 14 41	33 54½	176 8 17	40 2	29,65	68	69	6	
☿	——	19	Noon	68 40		40 39½	29,55	69	68		
♄	——	20	Noon	68 30		41 2	29,8	65	56		Very hazy

1773	Time by No 1 H ′ ″	Altitude of the ☉'s L L ° ′	Longitude East of Greenwich	Latitude of the Ship South	Barometer	Therm. C	Therm. D	Gales	Remarks
♄ Nov 20	13 5 40	15 56½	174 58 30	41 00	29,8	66	55	6	
☉ — 21	Noon	68 41		41 5½	29,75	62	55		
	3 56 27½	32 56½	175 52 30	41 7	29,75	66	54	4	
☽ — 22	Noon	68 55		41 4½	30,1	62	55		
	12 49 15	28 3¼	175 22 42	40 58	30,1	64	56	6	Cape Turnagain W N W distant 7 or 8 leagues
	14 14 9	12 27⅙	175 13 3	40 57	30 1	64	56	6	
♂ — 23	Noon	69 18		40 54⅙	30,2	62	61		
	11 39 10½	41 29½	175 5 15	40 57	30,25	62	61½	6	Cape Turnagain N N W distant 5 or 6 leagues
☿ — 24	Noon	68 48		41 36½	30,3	63	61½		
♃ — 25	3 2 56	21 52½	173 17 19	42 00	30,1	64	56	6	
♀ — 26	3 15 13	29 40½	173 00 30	42 01	29,95	63	56	6	
♄ — 27	Noon	69 1		41 57⅝	29,9	64	61		
☉ — 28	5 11 33	46 17½	173 27 36	42 4	29,85	65½	57½	3	
☽ — 29	Noon	69 13		42 6⅞	29,85	66½	60		Hazy
	5 20 43	17 59½	172 53 6	41 12	30,2	63	54	6	

☉ Dec 7 Mr Bayley compared the watch with the clock, by which the times of equal altitudes had been noted (see p 69) from whence it appears that the watch was 15 h 36′ 19″,5 too slow for mean time on that day at noon and therefore, according to its rate and state with respect to mean time at Point Venus in Otaheite, on August the 31st, the difference of longitude between that place and this will appear to be 37° 48′ 43″½ that is, it makes this place 172° 38′ 16″ E of Greenwich If we reckon all the way from England, at the rate it was going when at Greenwich, it will place Queen Charlotte's Sound 235° 44′½ E of Drake's Island in Plymouth Sound, or 231° 28′½ E of Greenwich

But farther Mr Bayley found this watch too slow for mean time at this place, June the 7th at noon by 13h 36′ 58″,5, and that it was then losing on mean time at the rate of 25″,66 a day according to which, it should have been too slow for mean time on Dec 7th, by only 14h 55′ 14″,3, instead of 15h 36′ 19″,5; the difference 41′ 5″,2, = 10° 16′ 18″ in longitude, is what the watch has erred in half a year

The watch was found now to be losing 44″,924 a day on mean time, and that it was too slow on ♀ December 15th at noon by 15h 42′ 17″,46 Moreover, in computing the following longitudes of the ship Mr Bayley has supposed that the longitude of Queen Charlotte's Sound was 174° 1′ 55″½ E. of Greenwich

1773	Time by No 1	Altitude of the ☉'s L L	Longitude East of Greenwich	Latitude of the Ship South	Barometer	Therm. C	Therm. D	Gales	Remarks
☿ — 22	14 16 47	13 50½	174 29 45	41 20	29,8	67	65	6	
	3 0 28	24 45½	174 57 24	42 9	29,9	65	64	6	
♃ — 23	Noon	70 50		42 25½	30,1	66½	66	6	
	12 43 30½	30 22½	175 19 51	42 29	30,0	66	65½	6	
♀ — 24	Noon	70 14		43 00½	30,0	69	64½		
	14 41 28	9 49½	175 10 12	43 24	30,15	66	62	6	
♄ — 25	Noon	68 32		44 38⁹⁄₁₀	30,2	66½	62		Hazy
	3 27 11½	31 16½	176 44 35	45 40	30,1	66	57	6	
☉ — 26	Noon	67 28		45 43	29 8	66	57		
	13 12 ½	18 36½	177 10 36	45 47	30,0	65	61½	6	

1773.	Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East of Greenwich. ° ′ ″	Latitude of the Ship South. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
♂ Dec. 28.	Noon.	65 57 :		47 8 1/3	30,05	64	54	—	Very hazy.
	4 24 52	42 8 1/3	178 44 12	47 50	29,95	62	51 1/4	6	
☿ —— 29.	Noon.	64 55		48 7 1/2	29,9	63	54		
	3 33 3	34 28 1/3	180 31 10 1/2	50 52	29,6	56	45	6	
1774. ♄ Jan. 1.	Noon.	61 53		50 56 7/8	29,75	55	46	—	
	14 26 12 1/3	10 33 3/4	181 39 49	51 7	29,75	50	41	6	
	4 11 55 2/3	41 54 1/4	182 51 52	51 28	29,85	52	41	6	
☉ —— 2.	Noon.	61 8		51 36 2/3	30,05	57	48		
♂ —— 4.	1 48 12	25 32 1/4	191 55 51	55 15	29,65	50	49	6	
☿ —— 5.	Noon.	56 58		55 28 4/5	29,4	62	46	—	
♀ —— 7.	1 52 50	31 46 7/8	202 26 36	57 8	29,8	55	38	6	
♄ —— 8.	Noon.	54 59		57 5 9/10	29,7	60	40		
	2 5 1 1/2	33 26 1/6	202 35 21	57 8 1/2	29,75	54	36	6	
☉ —— 9.	Noon.	54 28		57 28 2/3	29,65	55	38	—	
☽ —— 10.	0 39 1	26 55 3/8	212 19 28	58 14	28,8	50	35	6	
♂ —— 11.	Noon.	53 21		58 18	28,65	55	36	—	
☿ —— 12.	12 20 0 1/2	10 23	216 29 30	58 45	28,45	56	36 1/4	3	
♃ —— 13.	Noon.	52 35		58 45 2/3	28,55	60	41	—	
♀ —— 14.	0 22 17 1/2	29 31 2/3	222 19 45	58 48	29,1	51	39 1/4	6	
♄ —— 15.	Noon.	52 10		58 48 1/3	29,0	58	38 1/4	—	
☉ —— 16.	Noon.	51 57 ::		58 50 1/3	29,5	57	40	—	
	0 11 16	32 28 1/4	231 27 32	59 3	29,65	50	39	6	
☽ —— 17.	10 22 31	47 0	Pocket Watch.	59 11	☉ N. E. 1/4 N. at the first Observ. Ship's course E. 1/4 N. distance run 15 miles.				
♂ —— 18.	12 22 38	51 4							
	0 2 59	35 40 1/2	240 23 49	59 23	28,6	51	42	6	
☿ —— 19.	Noon.	50 47		59 24 5/6	28,75	54	41	—	
	6 14 29	41 1 1/2	242 4 51	59 26	28,7	59	40	6	
	6 27 37	39 34 1/2	242 12 1 1/2	59 26		59	40	3	
	7 29 59	32 10 1/3	242 26 14	59 28	28,4	59	39 1/2	6	
♃ —— 20.	Noon.	50 7		59 52 1/2	28,45	58 1/2	41 1/2		
♀ —— 21.	Noon.	49 37		60 9 1/2	28,35	59	41 1/2		
	9 1 56 2/3	17 25 1/2	248 2 38	60 9 1/2	28,55	58	40	3	
♄ —— 22.	Noon.	50 2		59 31 1/2	28,75	56	42		
	8 55 11	16 39 3/4	250 28 34	59 23	28,5	59	40	6	
	22 29 26 1/2	29 22	251 54 23	59 17	28,55	52	40	3	
☉ —— 23.	Noon.	50 4		59 15 1/4	28,5	57	42	—	
☽ —— 24.	Noon.	49 32		59 33 1/2	28,85	60	38 1/2	—	
	9 3 2	11 49	257 29 12	59 37	29,0	57	42	4	
♀ —— 28.	Noon.	46 20		61 46					
	6 39 38	20 5 1/2	274 27 34	61 47	29,25	63	41	6	
	21 9 9 1/2	30 18 1/2	277 28 6	61 45					
	22 45 26	39 56	Pocket Watch.	61 50	☉ N. by E. at the first Observation. Ship's course N. E. by E. distance run 10 miles.				
♄ —— 29.	0 34 11	45 46							
	20 25 23	27 42 1/2	282 49 57	61 37	29,4	54	41 1/2	6	
☉ —— 30.	Noon.	46 0		61 34 2/3	29,35	61	42 1/2		

1774	Time by No 1 H	Altitude of the ☉'s L L	Longitude East of Greenwich	Latitude of the Ship	Barometer	Thermom C	D	☉	Remarks
♂ Feb 1	8 25 1½	53 54⅛	297 40 29	60 48	29,?	51	41	6	
☿ — 2	Noon	46 0		60 44½					
	17 46 9	16 55½	301 34 27	60 39	29,5	54	41	6	
	19 34 28½	30 18½	302 23 12	60 38	29,5	55	41½	6	
	21 07 7	39 47	Pocket Watch	60 36					O N ½ E at the first Observat. Ship's course N E by E dist run 12 miles
♃ — 3	22 35 51	45 11							
☉ — 6	16 33 24	13 37⅓	314 41 37	59 30	29,2	52	35	5	
☽ — 7	Noon	45 59		59 16½	29,2	57½	41		
	19 22 58	35 28½	316 56 41	58 38	29,8	54	35	4	
	19 23 30	35 33							
♂ — 8	22 26 30	46 25		58 30					O N N E at first Observation Ship's course N E N dist run 1½ mile
☿ — 9	Noon	47 17		57 20⅓	29,85	57½	37		
☿ — 16	1 16 49	24 17⅙	336 35 34	53 55	29,4	61	39	6	
♀ — 18	19 53 10	46 30							O N ½ E at the first Observ Ship's course N E by N dist run 2½ miles
♄ — 19	20 53 10	47 2		54 0					
	19 47 37	47 1							
☉ — 20	20 37 27	47 30		53 20	29,7	56	37		
	0 4 51	28 35⅓	344 26 0	53 21	29,75	57	38	6	
	7 33 47	36 52	346 30 55	53 24	29,0	52	39	6	
☽ — 21	Noon	47 10		53 23⅘	29,1	55	39		
	1 9 26	16 52½	347 47 51	53 24	29,4	56	30	3	
	14 48 59½	15 27⅓	349 6 44	53 14	30,05	53	37	6	
♂ — 22	Noon	47 01		53 11½	29,95	57	40		
	1 22 9⅓	13 18⅓	349 57 6	53 14	30,0	52	39	3	
♃ — 24	Noon	46 42		52 46¼					
	0 40 51	14 43½	356 30 46	52 51	29,25	56	39	6	
	4 33 59	34 30	Pocket Watch						O N E ½ E at the first Observation Ship's course E by S 10 miles
	6 20 35	44 15		53 15					
♀ — 2	4 49 26	16 13½	359 53 27	53 25	29,0		38	3	Altitudes of Spica ♍
♄ — 26	14 9 16	17 11⅜	3 21 33	53 24	29,4	49½	37	6	

Here Mr Bayley having completed 360° of longitude, or one revolution round the globe from the meridian of Greenwich eastward, to the meridian of Greenwich again rejected 360° and repeated February 26, in order to bring his day to correspond with that at Greenwich

♄ — 26	Noon	45 56		53 27	29,6	55	37		
	23 48 12	16 10½	4 55 48	53 33	29,55	59	37	6	
☉ — 27	Noon	44 7		53 53½	29,5	57	40		
♂ March 1	23 53 26	11 8¼	9 56 40	53 48	28,85	57	34	6	
	15 18 27	29 55½	11 9 3	54 5	29,2	52	35	6	
	15 48 26	33 26							
	17 52 40	42 25		54 4					O N E by E at the first Observ Ship's course E S E ½ E dist run 7 miles
☿ — 2	14 20 38⅓	25 30	13 13 15	53 38					
♃ — 3	Noon	43 12		53 17¾	29,2	34	34	6	A high sea
	23 49 54½	8 41⅓	13 30 22	52 56	29,65	56	34	6	
♄ — 5	21 46 1	44 58		50 45⅓	29,9	57	38		
	21 46 1	25 56½	15 3 45	50 38	29,2	50	43	3	

1774.	Time by No. 1.	Altitude of the ☉'s L. L.	Longitude East of Greenwich.	Latitude of the Ship South.	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
	H ′ ″	° ′	° ′ ″	° ′					
☽ March 7.	Noon.	46 25		48 32½	29,85	57	41		
	18 47 18	45 6$\frac{3}{5}$		48 15	29,8		40	6	
	22 51 36	14 35¼	16 42 3	48 15	29,95	57	39	6	
	12 55 47¼	13 24	16 39 57	47 53	30,0	38	38	8	
♂ —— 8.	Noon.	46 57		47 36$\frac{1}{4}$	29,75	59	40		
♃ —— 10.	Noon.	50 33		43 13$\frac{4}{5}$	29,85	59	47½		
	22 39 3$\frac{2}{5}$	15 39¼	17 21 31	42 49	29,7	60	49	6	
♀ —— 11.	Noon.	51 35		41 48$\frac{1}{6}$	30,05	61	55		
	14 5 41	27 17$\frac{5}{6}$	17 43 37	41 24	29,8	57½	61½	6	
♄ —— 12.	12 25 14	9 13$\frac{1}{5}$	17 38 31	40 23	29,6	62	64	6	
☉ —— 13.	Noon.	52 36		39 59	29,6	65	60	—	
	22 19 47	17 38$\frac{1}{6}$	18 27 0	39 37	29,55	63	61	3	
	12 53 4½	15 33$\frac{1}{5}$	19 0 12	38 0	29,75	64	64½	6	
☽ —— 14.	Noon.	54 40		37 32½	29,7	65	65½	—	
	22 34 59$\frac{2}{5}$	14 21$\frac{1}{6}$	18 53 0	37 3	30,0	67	62	3	
♂ —— 15.	Noon.	56 17		35 31¼	30,2	67	69	—	
	22 34 44$\frac{2}{5}$	14 3¼	19 4 48	35 18	30,25	66	68	3	
☿ —— 16.	Noon.	56 47¾		34 37¾	30,05	70	69½		
	20 37 3	16 29$\frac{3}{5}$	19 21 25	34 35	30,1	69	68½	6	
	12 45 33¾	15 21$\frac{2}{5}$	20 0 13	34 21	30,15	68	68$\frac{1}{4}$	6	
♃ —— 17.	Noon.	56 48¼		34 12$\frac{9}{10}$	30,0	70	69$\frac{1}{2}$	—	
	22 11 10	16 54¼	20 35 16½	34 10	30,0	70	70	6	In sight of the Table Hill.
♀ —— 18.	21 52 56½	20 0	20 51 25½		30,0	69½		6	Off the entrance into Table Bay, at the Cape of Good Hope.

☿ —— 23. Mr. Bayley compared the watch with his clock, by which the times of equal altitudes of the sun had been noted, (see p. 77). From whence it appears that the watch was 6 h. 45′ 23″ too slow for mean time at the Cape, on that day at noon; and by comparing this with the time shewn by it at Queen Charlotte's Sound, in December last, and allowing the rate it was then going at, I find that it makes the difference of longitude between this place and that 207° 20′ 53″; that is, it makes the Cape Town 21° 22′ 48″ east of Greenwich, or 2° 59′ 33″ greater than the truth. Computing all the way from England, at the rate it was going when at Greenwich, it puts the Cape Town 103° 21′ 54″ to the eastward of Drake's Island in Plymouth Sound, or 99° 5′ 46″ east of Greenwich; that is, 80° 42′ 31″ more than it ought to be.

But farther: Mr. Bayley computed that this Watch was 1 h. 55′ 12″,6 too slow for mean time, at this place, on ☉ November 22, 1772, and it was then losing at the rate of 20″,2727, &c. a day; consequently, it should have been too slow on March 23, 1774, by 4 h. 5′ 37″87 only, instead of 6 h. 45′ 23″: the difference, 2 h. 39′ 45″13 = 39° 56′ 17″ in Longitude, is what the Watch has erred from itself in 16 months.

Lastly, Mr. Bayley found that it was now losing 1′ 3″,668 a day on mean time, and that it was too slow on ☉, April the 10th, at noon, by 7 h. 4′ 29″91 on which suppositions, and that the Longitude of the Cape Town is 18° 23′ East, the following Longitudes of the ship are computed.

1774.	Time by No 1 H ′ ″	Altitude of the ☉ & L L	Longitude East of Greenwich ″	Latitude of the Ship South	Barometer	Thermom. C	Thermom. D	No of	Remarks
♄ April 16	20 44 $12\frac{1}{2}$	18 $42\frac{9}{10}$	18 22 28	33 49	30 05	72	—	6	Cape Town S S E
	12 31 14	15 $21\frac{1}{2}$	17 35 44	33 18	30,1	68	64	5	
☉ — 17	Noon	46 $1\frac{1}{2}$		33 $12\frac{1}{4}$	30,1	65	65		
☽ — 18	12 42 $59\frac{1}{2}$	15 $41\frac{1}{2}$	16 21 48	32 58	29,87	$64\frac{1}{2}$	64	5	
♂ — 19	Noon	45 28		33 $4\frac{1}{2}$	29,9	70	66		
	12 10 $53\frac{1}{2}$	9 $35\frac{1}{5}$	16 15 9	32 38	30 15	70	64	6	
☿ — 20	Noon	45 38		32 $33\frac{9}{10}$	30 1	69	71		
	20 27 25	22 $16\frac{1}{3}$	16 2 15	32 28	30 0		64	6	
	13 5 $47\frac{1}{2}$	19 $28\frac{1}{8}$	14 42 0	31 $26\frac{1}{2}$	30,05	70	$63\frac{1}{2}$	6	
♃ — 21	Noon	16 38		31 $13\frac{1}{2}$	29,65	70	$63\frac{1}{2}$		
	12 21 $54\frac{1}{2}$	10 $9\frac{3}{4}$	13 3 $58\frac{1}{2}$	30 23	29,9	68	63	6	
♀ — 22	Noon	47 15		30 $16\frac{1}{2}$	29,85	$68\frac{1}{2}$	$66\frac{1}{2}$		
	21 57 30	7 $16\frac{1}{3}$	13 3 48	30 08	29,95	67	64	6	
	12 6 $28\frac{1}{2}$	7 $25\frac{1}{3}$	13 8 15	29 27	30,05	69	5	6	
♄ — 23	Noon	47 55		29 $14\frac{1}{2}$	30,0	70	66		
☉ — 24	Noon	49 $6\frac{1}{2}$		27 $44\frac{1}{2}$	0 0	68	66		
	13 36 10	23 $54\frac{1}{2}$	9 31 18	26 23	30,0	67	$64\frac{1}{2}$	6	
☽ — 25	Noon	50 18		26 $1\frac{3}{8}$	29 9	$70\frac{1}{2}$	67		
	12 31 18	10 $6\frac{1}{2}$	8 14 22	25 6	30,15	67	66	6	
♂ — 26	Noon	51 14		24 $57\frac{1}{2}$	30 0	0	$69\frac{1}{2}$		
	12 20 $41\frac{1}{2}$	7 $16\frac{1}{5}$	6 44 0	24 2	30,05	71	$66\frac{1}{2}$	6	
☿ — 27	Noon	52 $4\frac{1}{2}$		23 $4\frac{7}{8}$	29 9	69	70		
	13 28 $1\frac{1}{2}$	20 $56\frac{1}{2}$	5 51 22	21 54	29,85	70	66	6	
♃ — 28	Noon	52 $44\frac{1}{2}$		22 49	29,9	69	$69\frac{1}{2}$		
♀ — 29	Noon	53 21		21 53	29,95	$71\frac{1}{2}$	75		
	22 20 29	9 51	4 9 6	21 45	29,95	70	68	6	
	12 29 $52\frac{1}{2}$	7 $50\frac{1}{2}$	3 43 1	21 28	30,0	71	69	6	
♄ — 30	Noon	53 35		21 $21\frac{1}{2}$	30,0	72	$77\frac{1}{2}$		
	13 6 11	15 $22\frac{1}{2}$	3 0 2	20 56	30,0	—	$69\frac{1}{2}$	6	
☉ May 1	Noon	53 $46\frac{1}{2}$		20 $51\frac{1}{2}$	30,1	73	76		
	14 22 28	30 $53\frac{7}{8}$	2 23 36	20 30	30,0	73	$70\frac{1}{2}$	6	
☽ — 2	Noon	53 58		20 $22\frac{1}{2}$	29,95	$73\frac{1}{2}$	$70\frac{1}{2}$		
	12 31 30	7 38	2 1 22	19 39	30 0	$73\frac{1}{2}$	$69\frac{1}{2}$	6	
♂ — 3	Noon	54 30		19 $32\frac{1}{2}$	30,0	74	$74\frac{1}{2}$		
	13 3 51	14 $40\frac{1}{2}$	1 45 24	19 29	30 0	72	$71\frac{1}{2}$	6	
☿ — 4	Noon	54 18		19 $27\frac{1}{2}$	30,0	74	76		
	14 15 43	29 $22\frac{1}{3}$	1 2 53	18 57	30,0	72	$71\frac{1}{2}$	6	
♃ — 5	Noon	54 $40\frac{1}{2}$		18 $47\frac{1}{2}$	30,05	72	$73\frac{1}{2}$		
	22 42 $32\frac{1}{3}$	6 $42\frac{1}{6}$	0 41 48 West	18 37	30,0	73	70	3	
	12 54 58	11 53	0 18 33	17 57	29,9	73	$70\frac{1}{2}$	6	
♀ — 6	Noon	55 30		17 $40\frac{9}{10}$	30,0	73	$73\frac{1}{2}$		
♄ — 7	Noon	56 5		16 $49\frac{1}{2}$	29,95	73	75		
☉ — 8	Noon	56 $49\frac{1}{2}$		15 $48\frac{1}{2}$	30,0	72	$74\frac{1}{2}$		
☽ — 9	21 44 $44\frac{1}{3}$	22 $41\frac{1}{3}$	2 58 3	15 41	30,05	72	69	6	
	22 11 $15\frac{1}{2}$	18 $12\frac{3}{8}$	4 18 18	14 36	30,15	73	70	6	

1774.	Time by No. 1. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude West of Greenwich. ° ′ ″	Latitude of the Ship South. ° ′	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
♂ May 10.	Noon.	58 42½		13 23¼	30,15	76	75		
	22 3 15	21 42½	5 58 34	13 8	30,15	76	71	2	
☿ —— 11.	Noon.	59 48		12 2¼	30,15	76	75		
	22 27 32	17 56½	7 33 50	11 49	29,8	76	72	6	
	12 51 44	7 25$\frac{1}{6}$	8 18 45	9 32	30,0	76	75	3	
♃ —— 12.	Noon.	60 52		10 43$\frac{1}{15}$	29,95	77	77		
	13 54 55	21 8¼	9 48 10	9 32	30,0	77	76	6	
♀ —— 13.	Noon.	62 5		9 14½	29,95	78	80		
	22 58 16½	14 0$\frac{9}{10}$	10 24 27	8 58	30,0	77	73	6	
	13 11 13	10 25	11 23 43	8 14	29,95	78	75	6	
♄ —— 14.	Noon.	63 9		7 55½	30,0	79½	80½		
	13 30 23	14 10¾	12 51 7	6 51	29,8	78½	77½	6	
☉ —— 15.	Noon.	64 14¼		6 33½	29,85	80	81½		
	23 19 35¼	12 18⅔	13 27 32	6 16	29,9	81	81	6	
	13 14 31½	9 51½	14 23 32	5 30	29,85	79	78½	6	
☽ —— 16.	Noon.	65 23		5 14⅔	29,9	82	82½		
	23 20 37½	13 34¼	14 53 13	4 58	29,95	81	82	6	
	13 26 45	11 59$\frac{9}{10}$	15 44 39	4 15	30,0	80½	79½	6	
♂ —— 17.	Noon.	66 24		3 59½	29,9	79	78½		
	23 15 24	16 18½	16 20 34	3 41	29,9	81	80½	6	
	13 28 32	11 39$\frac{1}{10}$	17 18 48	2 52	29,95	79	78½	6	
☿ —— 18.	Noon.	67 35		2 35½	30,0	79½	81½		
	23 27 20	15 12$\frac{1}{6}$	17 54 2	2 20	30,0	81⅓	80½	6	
	13 11 39	7 18$\frac{9}{10}$	18 33 42	1 20	30,0	78½	77	3	
♃ —— 19.	Noon.	68 59		0 58¼	30,0	79	80		
	23 20 11⅓	17 58⅔	18 45 55	0 43	30,0	80	80½	6	
				North.					
♀ —— 20.	Noon.	70 6		0 21½					
	21 10 19	21 1$\frac{1}{6}$	19 20 53	0 34	29,9		80	6	
	23 47 58	12 17$\frac{1}{10}$	19 23 0	0 35	29,9	79½	80½	3	
♄ —— 21.	Noon.	70 57		1 24½	29,95	79½	80		
	0 14 19¼	7 17¼	20 27 34	1 38	29,9	80	79½	3	
	14 36 11	26 36$\frac{1}{6}$	21 10 34	2 37	29,9	79	80	6	
☉ —— 22.	Noon.	72 15		2 54½	29,95	82¼	82½		
	14 23 46	23 48⅓	21 48 25	3 55	30,0	80½	79	3	
☽ —— 23.	Noon.	73 14 ::		4 5$\frac{1}{15}$	30,0	82	83		Very hazy.
	15 38 18	41 17$\frac{1}{6}$	21 55 30	4 27	29,95			6	
♂ —— 24.	Noon.	73 34½		4 36⅓	29,95	80	79		
	13 28 1½	11 43¾	21 50 2	5 19½	29,95	80	78	6	
☿ —— 25.	Noon.	74 14		5 27½	30,1	83	82		
	13 29 40⅓	14 3⅓	21 48 18	5 51	30,05	82	81	3	
♃ —— 26.	Noon.	74 32		5 55⅓					
	13 35 52½	14 4¼	21 56 8	6 0	29,9	81	77	6	
♀ —— 27.	Noon.	74 25½		5 59¼	30,0	82½	81½		
♄ —— 28.	Noon.	74 38 :		6 21½	29,9	81	77		Hazy.
	23 7 44⅔	24 32⅓	22 19 3	6 26	29,95	81½	80	6	

1774.	Time by No. 1 H	Altitude of the ☉'s L. L.	Longitude West of Greenwich	Latitude of the Ship North	Barometer	Thermom. C	Thermom. D	No of Obs.	Remarks
☉ May 29.	Noon	74 45		6 37 7/8	29,95	80	79		
☽ —— 30	16 20 55	53 23 1/3	21 24 15	6 36	29 95	78	77	3	
♂ —— 31	Noon	74 26 1/4		6 36 1/4	30,05	80	79½		
	23 12 50	21 59 5/8	21 24 54	6 38	30,0	79	76	6	
	11 6 28	23 7	21 21 6	6 46	30,05	79	79½	6	
☿ June 1	Noon	74 29 1/2		6 47 9/10	30,0	81½	81		
♃ —— 2	13 31 7	15 30	21 0 15	7 5	30,0		79½	6	
	Noon	74 41		7 7 1/2	30,0	80½	81		
♀ —— 3	13 20 46	12 29 1/10	22 3 11	7 10	30,0	79	79½	6	
	Noon	74 36		7 10 9/10	30,0	80	80		
♄ —— 4	13 15 8	10 58	22 41 37	7 35	29,95	79	78½	6	
	Noon	74 58 1/4		7 39 1/10	30,0	80	81		
☉ —— 5	15 4 46	13 48 1/2	23 28 50	7 56	30,0	79	77½	3	
	Noon	75 11 1/4							
☽ —— 6	Noon	75 20		7 59	29,9	80	80		
	23 33 52	19 0 1/4	24 10 54	8 14	30,0	80½	81		
	14 30 48	27 28 4/5	24 56 53	8 20	30,0	80	78	6	
♂ —— 7	Noon	76 15		9 7	30,0	79	78	6	
	15 20 41	38 18 3/8	26 19 49	9 14 7/8	30,0	80½	80		
☿ —— 8	Noon	77 23 1/4		10 20	30,0	78	77	3	
	14 2 43	19 59 7/8	27 27 36	10 28	29,8	79	79½		
♃ —— 9	Noon	78 41		11 37	29,9	77	77	6	
	14 1 51	19 22	28 43 22	11 51 1/2	29,95	79	79½		
♀ —— 10	Noon	80 2		13 3	29,95	77	76	6	
	13 27 55	11 13 9/10	29 56 18	13 18 1/4	30,05	77½	77½		
♄ —— 11	Noon	81 22 1/4		14 23 1/2	29,85	77	74	6	
	14 6 57	19 38 1/2	31 13 57	14 42	30,0	76½	76½		
☉ —— 12	Noon	83 0		16 3	30,0	76	74	3	
	0 47 49	10 56 1/8	31 45 6	16 23 1/2	30 0	76	76		
☽ —— 13	Noon	84 17 1/2		16 48	30,0	76	74	3	
	23 52 51	24 8 7/8	32 27 18	17 44 1/2	30,0	76½	75		
	14 14 29	21 21 7/8	32 39 47	18 0	30,0	76	74½	6	
♂ —— 14	Noon	85 43 1/4		18 58	30,0	75½	74	6	
	0 37 15 1/2	14 47	32 44 42	19 13 1/2	29 95	76½	77		
	13 40 29	15 15	33 4 41	19 29 1/2	30,05	76	75	6	
☿ —— 15	Noon	87 16 3/4		20 24	30,1	76	75	6	
	0 17 31	10 0 1/8	33 18 14	20 49	30,05	76	76		
♃ —— 16	Noon	88 47		21 10	30,0	76	75	6	
	23 30 42 1/2	31 17 9/10	34 3 2	22 21 9/10	30,15	77	77½		
	13 29 22	11 48 1/4	34 40 52	22 35	30,15	76	76	6	
♀ —— 17	Noon	89 28		23 28 1/4	30,15	76½	76	6	
	0 18 56	21 33	34 51 57	23 45	30,2	78½	79		
	13 44 57	15 24 1/2	35 6 30	23 58	30,2	78	78½	6	
♄ —— 18	Noon	88 5		24 48	30,25	77½	76	6	
	0 56 46 1/4	14 0	35 14 29	25 9 1/2	30 25	78	77½		
☉ —— 19	Noon	86 41		25 27	30,2		77	6	
				26 33 1/2	30,2	77	77½		

1774.	Time by No. 1. (H ′ ″)	Altitude of the ☾'s L. L. (° ′)	Longitude West of Greenwich. (° ′ ″)	Latitude of the Ship North. (° ′)	Barometer.	Thermom. C.	Thermom. D.	No. of Obs.	Remarks.
☉ June 19.	0 19 22	22 18⅛	35 16 37	26 52	30,2	77	75	6	
	13 52 4	18 10¼	35 7 35	27 42	30,2	76½	75½	6	
☽ —— 20.	Noon.	85 16		28 0 1/10	30,3	77	76½		
	13 46 43	17 38	35 6 12	28 58	30,3	77	74½	6	
♂ —— 21.	Noon.	83 59		29 17¼	30,25	79	77		
	14 3 53	21 37¼	35 23 12	30 34	30,3	78	75	6	
☿ —— 22.	Noon.	82 21		30 55	30,3	76	75		
	13 19 31	13 7½	35 31 36	32 13	30,3	76	75	6	
♃ —— 23.	Noon.	80 36		32 39⅔	30,3	76	74		
	1 19 26⅓	11 28½	35 41 19	33 2	30,2	76	74½	6	
	14 0 5	21 28⅓	36 6 45	34 2	30,35	76	72½	6	
♀ —— 24.	Noon.	78 50¼		34 23½	30,45	74	73½		
♄ —— 25.	Noon.	77 16½		35 56½	30,45	74	73½		
☉ —— 26.	Noon.	76 0		37 50	30,35	73½	72		
	23 7 31	38 8½	35 50 6	37 22	30,25	74	72	6	
	14 21 1⅓	27 26⅜	35 15 57	37 33	30,3	73	71	6	
☽ —— 27.	Noon.	75 23		37 45⅓	30,3	74	73		
	13 49 0½	22 0⅔	34 22 5	37 51½	30,1		71	6	
♂ —— 28.	Noon.	75 12⅔		37 53 1/10	30,4	73	76		
	12 51 31	12 6½	33 45 34	38 31	30,2		72	6	
	13 10 23	15 36⅓	33 44 54	38 31	30,2		72	6	
☿ —— 29.	Noon.	74 22½		38 40½	30,35	75	74½		
	14 13 2	28 26⅛	32 43 41	39 3½	30,4		73	6	
	14 43 44	34 22⅓	32 45 36	39 4	30,4		73	5	
♃ —— 30.	Noon.	73 46⅛		39 13	30,4	74½	76		
	16 15 56½	53 26⅛	30 57 20	39 57	30,4	75	73	6	
♀ July 1.	Noon.	72 49		40 6½	30,3	73½	74½		
♄ —— 2.	Noon.	72 11½:		40 50⅞	30,15	72	66		Hazy.
	23 45 2⅓	24 47½	29 7 37	41 0	30,15	73	71	6	
☉ —— 3.	Noon.	71 13½		41 32¾	30,1	72	70½		
	23 50 4	22 25⅛	27 4 24	41 51	30,05	73	71½	6	
	13 54 50	31 18½	25 32 33	42 33	30,15	72	70	6	
☽ —— 4.	Noon.	69 57		42 44	30,1	72	72		
	15 2 12½	45 21 1/10	23 1 54	43 48	30,0	72	71	6	
	16 55 19	63 18							☉ S. S. E. at the first Observation. Ship's course E. N. E. ½ E. at the rate of 6 miles an hour.
♂ —— 5.	18 20 0	68 32		44 1					
	12 55 25⅔	24 43½	20 32 17	45 22	29,8	71	67	6	
	16 51 0	62 50¾		45 45½					☉ S. S. E. at the first Observation, and S. by W. at the second. Ship's course E. N. E. ½ N. at the rate of 7 miles an hour.
☿ —— 6.	18 28 0	66 2		45 46½					
	20 11 11	54 42							
	13 35 23	34 9½	17 5 3	46 55	29,85	66	56	6	
♃ —— 7.	Noon.	65 13½		47 9⅞	29,85	63	59		
	13 5 37½	31 15⅓	14 0 30	47 56	29,95	59	57½	6	
♀ —— 8.	Noon.	64 11½		48 5⅓	29,9	62½	58		
	13 27 57	35 7⅛	10 41 47	49 0	29,9	59	57	6	

1774.	Time by No 1	Altitude of the ☉'s L L	Longitude West of Greenwich	Latitude of the Ship North	Barometer	Therm. C	Therm. D	Ob o o	Remarks
	H ′ ″	° ′	° ′ ″	° ′					
♄ July 9	Noon	63 0½		49 9½	29,95	62	57		
	22 53 1	20 3	9 13 55	49 14	29,9	63	57	4	
	13 25 49	39 2⅛	7 10 2	49 19	30,0	62	56½	6	
	16 2 20	60 0							O S at the first Observation Ship's course E S E ½ E at the rate of 6 miles an hour
☉ — 10	17 11 10	62 39		49 21¾					
	12 21 34½	30 27½	4 27 35	49 26	30,05	61	57	6	
☽ — 11	Noon	62 27	East	49 27½				—	
♂ — 12	22 3 52	20 59½	0 33 16½	49 38				6	
	12 55 1	40 19	2 33 13	49 58				6	
♃ — 14	11 23 42½	28 0¾	5 54 33	50 45½	30,2	57½	56	6	On board the ship at Spithead
♀ — 15	11 14 29	26 38¾	5 59 46½		30,18	59	57	6	
☉ — 17	11 14 15½	26 48½	6 12 37		30,22	57	54	6	
☽ — 18	11 32 48	29 47½	6 16 53		30,24	56½	55½	5	

According to the rate this Watch was going at when at Greenwich, before we left England, and the time it was set to at Drake's Island, in Plymouth Sound, July the 10th, 1772, it ought to have been too fast, for mean time at that place, when the Observation of July the 11th, 1774, was taken, by 9′ 35″,6 Mr Bayley then found it too slow for mean time, at Spithead, by 7h 56′ 11″,74; the Watch, therefore, places Spithead 8h 5′ 47″,34,=121° 26′ 50″ to the East of Plymouth Sound but as it is only 3° 9′ 15″ to the East of it, the difference, 118° 17′ 35″, is the Watch's error in the course of the whole voyage; that is, in two years and five days

Mr Bayley went round with the Watch, in the ship, into the river; and July 27th delivered it at the Royal Observatory at Greenwich, when he found that at 8h 55′ by the Watch, the transit Clock shewed 13h 32′ 24″ the Sun's transit, that day, was at 8h 23′ 53″,86 by the Clock; from whence it appears that the mean time of comparing the Watch was 5h 13′ 41″,6; and of course the Watch was too fast for mean time at Greenwich, by 3h 41′ 18″,5 This Watch gained at the rate of 0″,8 a day on mean time from April 13 to April 25, 1772, before it went on the voyage, and it lost at the rate of 1′ 21″,89 a day, on mean time, from July 21 to the 27th, 1774, after its return

I think the titles at the tops of the several columns will sufficiently explain themselves; but it may be necessary to remark, that the Thermometer marked C was kept in the cabbin, close to the Watches, and that marked D was in the open air, upon deck, but kept shaded from the sun

OBSERVATIONS

OF THE

MOON's Diſtance from the SUN and Fixed STARS, for determining the LONGITUDE at Sea,

Made on Board his MAJESTY's Sloop ADVENTURE, in her late Voyage on Diſcoveries towards the South.

By Mr. WILLIAM BAYLEY.

1772	Time by No. 1 H ′ ″	Distance ☽'s L from ☉'s or * ° ′ ″	Altitude of the ☉'s L L or *	Moon's Altitude	Longitude West of Greenwich	Latitude of the Ship N	No. Obs.	Thermom.	Objects
♂ July 21		94 37 40	52 46½	25 12 U	9 49½	43 36	2		☽ and ☉
☿ —— 22		83 58 0	40 52	46 40½ U	11 9	42 27	4		☽ and ☉
♃ —— 23		73 44 12	13 15½	62 12½ L	11 34½	40 34	6	69	☽ and ☉
♂ Aug 4	4 42 54	72 54 30	37 51½	49 23¼ U	18 28	28 29	4	73	☽ and ☉
	6 50 28	73 35 56	10 10½	47 10¼ L	17 50½	28 25	4	73	☽ and ☉
	9 47 6	38 49 10	31 14½	19 15 L	17 53	28 20	3	72	☽ and Antares
☿ —— 5	5 22 41	86 27 27	29 18⅓	45 28½ U	18 55½	27 31¼	5	73	☽ and ☉
	5 52 53	86 36 0	22 38⅛	47 27½ U	18 41¼	27 31⅛	4	73	☽ and ☉
☽ —— 10	8 32 41	43 56 7½	46 19	37 18 U	22 21½	17 24	2	78	☽ and Antares
	9 11 21		43 41				2	78	Arcturus
♂ —— 18	18 24 44	34 58 0	71 40	22 27 U	20 49½	10 54	1	76	☽ and Aldebaran
	19 53 24½	114 6 25	13 19	50 55½ U	20 57¼	10 47	3	76	☽ and ☉
♂ Sept 1	3 26 42	55 5 15 ‡	38 21¼	76 14	5 53½	1 55	4	78	☽ and ☉
♃ —— 3	7 14 54	56 54 20 ‡	63 12½	58 35½ L	8 49½	0 55	3	75	☽ and α Aquilæ
♀ —— 4	3 0 58	94 57 27 ‡	47 44⅛	36 10½ U	9 35	0 49	6	77	☽ and ☉
♄ —— 5	3 22 26	107 11 15 ‡	42 39½	28 48 U	9 40 9/10	0 55	3	76	☽ and ☉
	5 41 22	107 53 25 †	7 59	58 23½ U	9 51	0 55	3	76	☽ and ☉
☉ —— 6	4 55 35	119 52 15 ‡	18 12½	39 18½ U	9 17	0 31 South	4	76	☽ and ☉
♀ —— 11	10 19 57	54 59 0 †	61 51	59 45½ L	12 39½	3 30	3	72	☽ and α Aquilæ
	11 20 48	44 38 20 †	31 1½	74 37 L	12 21	3 30	3	70	☽ and α Arietis
♃ —— 17	20 43 9	110 27 54 ‡	28 29½	10 25½ U	17 33½	12 11	5	73	☽ and ☉
♄ —— 19	19 52 29	87 32 48 ‡	14 54	53 17 U	19 7½	15 19	6		☽ and ☉
☽ —— 21	20 5 43	62 36 60 †	27 48½	55 42½ U	20 32	18 25	3		☽ and ☉
	23 19 38	61 51 0 †	60 7½	39 46½ U	20 32½	18 36	3		☽ and ☉
♂ —— 22	23 22 51	48 45 52 †	59 50½	49 18⅞ U	21 28	20 1	5	73	☽ and ☉
☿ —— 23	21 37 48	35 47 9 †	37 7½	56 17½ U	21 58¼	21 20	4	72	☽ and ☉
♂ —— 29	4 20 35	37 5 5 ‡	34 48½	70 35½ L	21 40	20 14	3		☽ and ☉
♃ Oct 1	3 45 43½	64 10 31 ‡	38 29	72 16 U	18 9¼	27 27	5	69	☽ and ☉
	4 17 59	64 20 26 ‡	31 35½	77 58½ U	17 59¼	27 26	6	69	☽ and ☉
♀ —— 2	4 29 51	77 21 3 ‡	28 3⅞	70 56 U	17 18	27 38	4	69	☽ and ☉
♄ —— 3	5 12 28	90 5 22 ‡	17 16	69 23 U	15 41½	28 9	3	63	☽ and ☉
☉ —— 4	5 45 14½	102 18 27	7 59	66 33½ U	13 45½	29 7	3	58	☽ and ☉
☽ —— 5	2 58 5	113 8 57 ‡	42 44½	21 45½ U	12 2¾	28 56	6	59	☽ and ☉
	3 29 34	113 22 10 ‡	36 8	28 26 U	12 0¼	28 53	3	59	☽ and ☉
	3 58 30½	113 33 32 ‡	30 2½	34 34½ U	12 16	28 52	3	59	☽ and ☉
♄ —— 10	7 50 38	72 24 35 †	42 26½	27 15 L	7 39½	34 36	3	57	☽ and α Aquilæ
	10 12 25	73 5 0 †	20 57½	46 54½ L	7 30¾	34 41	3	57	☽ and α Aquilæ

1772	Time by No 1	Distance ☽ L from ☉ s or *	Altitude of the ☉ s L L or *	Moon's Altitude	Longitude West of Greenwich	Latitude of the Ship S	Glass	Therm.	Object
	H	″		″					
○ Oct 11	6 59 50 7 0 26	Apparent time, end of the Lunar Eclipse			By W Bayley By Capt Furneaux				
	9 45 37	83 50 18 ‡	24 18¾	36 21½ L	6 5½	34 46	4	57	☽ and Aquila
	10 57 12	44 15 35 ‡	13 34	43 54½ L	6 17¼	34 46	3	57	☽ and Aldebaran
☽ — 12	10 42 31	32 23 8 †	12 10¼	35 21½ L	6 40¼	34 53	4	57	☽ and Aldebaran
					East				
♀ — 16	18 33 35½	118 29 55 †	23 52½	8 0½ U	4 11½	35 1	3	57	☽ and ☉
☽ — 19	14 55 54	56 19 49 ‡	35 7¼	28 36¼ L	7 58½	34 32	4		☽ and Aldebaran
	18 43 54	82 37 0 †	31 24½	37 15½ U	8 2¼	34 38	3		☽ and ☉
	18 57 59	82 31 15 †	33 20	36 1½ U	7 56	34 38	5	59	☽ and ☉
	20 8 7	82 6 30 †	47 8¼	27 41½ U	8 51$\frac{9}{10}$	34 38	4		☽ and ☉
♂ — 20	17 26 57½	70 16 54 †	15 6½	41 32½ L	8 36	35 14	6	55	☽ and ☉
☽ Nov 30	2 30 55	73 54 32 ‡	29 5½	56 32½ L	17 43¼	42 32	3	52	☽ and ☉
♃ Dec 3	3 35 37	107 56 42	17 51	39 1¼ U	18 35	41 46	4	46	☽ and ☉
♀ — 4	2 21 42	118 26 24 ‡	31 2½	21 25½ U	17 57	45 55	5	42	☽ and ☉
♃ — 17	15 23 31	81 53 30 †	18 3½	36 20 L	24 52½	55 5	3	30½	☽ and ☉
	15 43 52	81 45 1 †	20 58	36 48 L	24 46	55 5	6	30	☽ and ☉
	16 8 24	81 35 30 †	24 23½	37 25½ U	24 59¾	55 5	4	30	☽ and ☉
1773 ♄ Jan 2	3 52 12½	109 10 2	23 21	6 51¼ U	9 59½	59 0	4	31½	☽ and ☉
	4 59 1½	109 32 30	15 1	19 14½ U	10 21	58 56	3	31	☽ and ☉
	5 12 38½	109 37 53	13 25	19 27 U	9 52½	58 55	2	31	☽ and ☉
☿ — 13	16 31 47	112 14 21 ‡	31 58	15 43¼ U	39 45	64 3	4	32½	☽ and ☉
	17 20 13½	111 49 7 †	36 43¼	11 17½ U	39 36	64 1	4	32½	☽ and ☉
	17 34 38	111 41 30 †	38 5¼	9 53½ U	39 40¼	64 1	6	32	☽ and ☉
♃ — 14	17 22 0¼	98 40 31 †	37 13½	20 9 U	40 3¼	63 36	4	34	☽ and ☉
	17 35 58	98 37 29 †	38 27½	18 54½ U	39 32½	63 36	5	34	☽ and ☉
	17 49 46	98 31 40 †	39 48	17 31 U	39 31½	63 36	3		☽ and ☉
	22 20 54	53 23 37 ‡	41 23½	31 10½ U	51 58¼	56 20	2	33	☽ and ☉
♃ Feb 4	4 59 52	34 56 36 ‡	13 56	21 34 L	60 23¾		4	42	☽ and Aldebaran
♄ — 6	4 57 51	61 57 22 ‡	14 18	24 33½ L	62 29¼	48 20	4	43	☽ and Aldebaran
♀ — 12	12 11 48	105 33 14 ‡	9 20½	48 14½ U	71 34¼	51 0	6	38	☽ and ☉
	14 43 25	104 31 36 †	32 58½	10 41½ U	71 51	51 1	4	38	☽ and ☉
♄ — 1	16 18 59	90 34 25 ‡	46 7	24 42 U	76 14½	51 37	1		☽ and ☉
	16 33 17	90 24 26 ‡	17 50¼	21 41½ U	76 18½	51 37	4	38	☽ and ☉
☿ — 17	15 3 28	40 1 23 †	41 46	52 14¼ U	88 15	52 53	2	17	☽ and ☉
○ — 28	18 9 8½	74 40 22 ‡	29 32¼	20 57¼ L	122 37½	50 15	2		☽ and ☉
	13 34 6	74 47 57 ‡	26 5	22 8½ L	122 29½	50 15	5	54	☽ and ☉
♃ March 4	19 15 45	120 14 2 †	11 21¼	17 5½ L	134 29	44 32	4	51	☽ and ☉

1773	Time by No 1 H ′ ″	Distance ☽'s L from ☉ or * ° ′ ″	Altitude of the ☉'s L L or * ° ′	Moon's Altitude ° ′	Longitude East of Greenwich ° ′	Latitude of the Ship S ° ′	No. of Obs	Thermom	Objects
♃ March 4	21 19 49	38 49 8 †	23 36½	26 32⅓ L	134 33⅓	44 20	3	51	☽ and Aldebaran
	0 12 50½	40 17 2 †	32 13¼	20 52½ L	134 57½	44 18	4	50	☽ and Regulus
☉ —— 7	21 12 22	37 37 18 |	17 27¼	24 9¼ L	142 40¼	43 46	4	54	☽ and Pollux
♂ —— 9	5 11 41	20 34 18 †	44 53¼	25 48 L	146 47½	43 44	4	52	☽ and Spica ♍
☿ —— 10	21 7 9½	44 31 04 ‡	24 8	11 36⅔ L	147 33 9/10	43 22	8	53	☽ and Regulus
☉ —— 14	11 41 18½	97 24 45 ‡	45 25⅚	18 49½ U	148 2 1/10	43 23	3	56	☽ and ☉
☽ —— 15	7 48 18	86 3 13 †	11 42½	62 52⅙ U	148 37⅞	43 33	6	53	☽ and ☉
	9 33 55½	85 27 7 †	29 45	49 44¼ U	148 42½	43 30	4	54	☽ and ☉
♂ —— 16	9 26 46	72 49 0 †	29 7⅙	58 45½ U	148 26⅙	42 4	6	53	☽ and ☉
☿ —— 17	9 27 22	60 25 18 †	29 42 1/10	63 35 1/10 U	148 26 7/10	40 41	5	54	☽ and ☉
☉ —— 28	14 38 11	53 34 30 ‡	31 33¼	31 55¼ U	161 35⅓	40 18	4	61	☽ and ☉
	15 26 9¼	53 48 39 ‡	23 47¼	32 43 U	161 39⅞	40 18	6	61	☽ and ☉
	18 42 16¼	48 8 9 †	21 12½	16 8 9/10 U	161 56	40 24	5	62	☽ and Pollux
☽ —— 29	14 59 20	64 40 29 ‡	36 35¼	29 19¼ U	163 29½	40 42	4	62	☽ and ☉
	15 36 15	64 50 15 ‡	20 20	30 42 U	163 50½	40 42	2	62	☽ and ☉
	15 52 52	64 55 16 ‡	17 21½	30 56½ U	163 27	40 42	3	63	☽ and ☉
♂ —— 30	15 2 37	75 49 11 ‡	24 4	25 57¼ U	165 27¼	41 17	4	64	☽ and ☉
	15 31 1½	75 58 0 ‡	19 11½	27 55 U	165 3½	41 17	2	64	☽ and ☉
	16 14 10	76 10 2 †	11 47½	29 35¼ U	165 10⅓	41 17	4	63	☽ and ☉
♄ April 3	16 16 39	123 42 15	4 31¼	21 38 U		40 30	4	63	☽ and ☉, back Obs
	17 44 25	71 13 30 †	18 5½	31 54½ L	172 25 1/10	40 28	4	60	☽ and Aldebaran
	21 10 12	60 40 10 |	48 15	33 15½ L	172 45 9/10	40 26	2	59	☽ and Spica ♍
☉ —— 4	15 43 3	136 25 10	9 30½	11 38½ U		41 21	6	63	☽ and ☉ by the back Obs
	15 51 56	136 29 53	7 49	13 10½ U		41 21	5	63	
	16 0 50	136 33 45	6 17½	14 39⅘ U		41 21	5	63	
	18 4 51	47 50 41 ‡	16 21⅓	32 40½ L	174 9	40 25	5	63	☽ and Spica ♍
	18 31 56	43 48 4 ‡	19 43½	35 40½ L	173 52¼	40 25	5	61	☽ and Pollux
☿ June 9	6 32 58	115 20 36 †	8 0½	26 55½ U	179 13⅓	43 50	6	53	☽ and ☉
	8 12 4½	114 34 30 †	18 33	9 24½ U	179 7⅛		1	54	☽ and ☉
♄ —— 12	7 27 6	79 59 58 †	14 15⅙	26 30½ U	183 57¾	46 17	6	51	☽ and ☉
	8 11 11	79 44 48 †	17 38½	19 58½ U	184 23 1/10	46 18	5	61½	☽ and ☉
♄ —— 26	8 57 56½	67 58 52 †	23 16	13 42 U	196 37⅓	43 5¼	3	48	☽ and ☉
	10 49 57	107 35 15 ‡	16 57¼	17 30¼ U	199 2⅙	42 52	4	52	☽ and ☉
♀ July 2	14 10 26	51 2 6 †	56 6	32 30⅓ U	203 42¼	43 1	3	48	☽ and Spica ♍

1773		Time by No. 1 H ′ ″	Distance ☽'s L. from ☉ or * ° ′ ″	Altitude of the ☉'s L. L. or *	Moon's Altitude	Longitude East of Greenwich	Latitude of the Ship S.	[illegible]	Thermom.	Observ.
☽	July 5	17 18 55	51 57 52 ‡	72 58¼	36 26 L	07 5	42 55	2	46	☽ and Antares
☿	— 7	18 18 3	79 45 52 ‡	67 44	25 38 L	210 18	11 51	1	19	☽ and Antares
♀	— 9	4 0 42	111 26 8 ‡	8 45	20 37 U	215 28	13 28	2	56	☽ and
		4 34 39	111 14 58 †	13 7	14 35 U	214 55	4[illegible] 28	3	55	☽ and
♄	— 10	4 11 45	99 59 24 †	11 25⅓	21 21⅓ U	217 8	13 32	5	46	☽ and
☉	— 11	3 56 33	88 56 41 †	10 51	25 56 U	218 48	43 16	7	17½	☽ and
		5 49 38	88 15 22 †	21 58	8 16 U	219 17		4	48	☽ and
☽	— 12	3 24 43	78 6 18 †	7 26	30 52 U	220 5	40 0	6	50	☽ and
		4 23 57	77 49 42 †	15 5	24 38⅙ U	220 11		6	56	☽ and
☉	— 25	9 51 36	64 49 35	23 36	57 39 U	224 7	29 13	6	66	☽ and
☽	— 26	9 39 4	77 53 12 ‡	25 49	53 16 U	225 16		6	66½	☽ and
		9 49 5	77 56 40 ‡	24 13	55 9 U	225 14½		3	66½	☽ and ☉
		10 28 50	73 10 35 ‡	17 22	61 39 U	225 10⅓		3	66½	☽ and
♂	— 27	8 25 54	90 39 0 ‡	36 20	30 2 U	225 24½	21 51	6	67	☽ and
		10 58 46	91 29 5 ‡	12 5	61 40 U	225 12		2	67	☽ and
		13 11 31	17 7 0 †	60 8	71 19 L	225 13½		3	65	☽ and Spica
		13 34 52	81 1 13 †	17 22	68 39 L	225 5¼		3	65	☽ and Aquila
☿	— 28	9 59 38	104 41 40	23 21	39 16⅛ U	224 28½	27 42	6	67½	☽ and ☉
♃	— 29	10 26 16	118 19 22 ‡	19 14⅓	33 37¼ U	223 54	27 20	7	68	☽ and ☉
♀	— 30	10 23 17	131 43 7 ‡	19 11	22 10 U	225 11⅓	26 58	4	69	☽ and ☉ back ☉
♄	— 31	10 56 4	145 18 27 ‡	12 58⅓	17 17 U	225 25		8	67½	☽ and ☉ ditto
☽	Aug 2	16 36 9	59 13 5 ‡	54 18¾	66 9 L	226 58		4	65	☽ and Antares
♂	— 3	16 37 21	73 27 35 ‡	32 24	54 21½ L	227 13½		4	67	☽ and Antares
☿	— 4	1 18 59	155 13 7 ‡	5 41¼	10 31⅞ L	227 40½	20 49	8	76	☽ and ☉ back ☉
☉	— 8	3 30 40	108 19 24 †	31 52	20 57⅛ U	222 53	17 44	6	75½	☽ and ☉
☽	— 9	3 31 5	97 17 21 †	30 57	30 40 U	220 52	17 24	7	75½	☽ and ☉
		4 20 43	97 0 52 †	40 18	20 15 U	220 54	17 24	6	77	☽ and ☉
☿	— 11	2 59 17	75 23 30 †	21 43¼	51 28¼ U	216 30		4	78	☽ and ☉
		3 8 21	75 21 51 †	23 38	50 20 U	216 35		5	78	☽ and ☉
♃	— 12	2 26 19	64 24 38 †	13 38	4 11 L	215 29½		3	79	☽ and ☉
♀	— 13	2 48 20	53 0 24	17 26	52 18¾ L	213 19⅕	17 17	9	79½	☽ and ☉
		3 44 38	5 47 13	29 31	53 28 L	213 13	17 17	9	80	☽ and ☉
♄	— 14	2 5 26	41 34 21	10 54	43 24½ L	211 46	17 41	6	79	☽ and ☉
☿	— [illegible]	11 6 13	89 30 25	25 53	02 42½ U	210 38	17 27	8		☽ and ☉
♂	Sept 7	2 8 43	10[illegible] 47 4	12 38	43 29 U	208 35	Observation hour [illegible] Lat 16 45½ S	10	77½	☽ and ☉
☿	— 8	3 14 37	94 23 59 ‡		33 1 U	108 42		6	78	☽ and ☉
♃	— 9	3 7 6	83 29 54	27 29	46 49½ U	208 33		6	79	☽ and ☉
	—	1 0 1	60 26 57 ‡	40 20	52 48 U	208 38½		6	76	☽ and ☉

1773.	Time by No. 1. H ′ ″	Distance ☽'s L. from ☉'s or ✳. ° ′ ″	Altitude of the ☉'s L. L. or ✳. ° ′	Moon's Altitude. ° ′	Longitude East of Greenwich. ° ′	Latitude of the Ship S. ° ′	No. of Obs.	Thermom.	Objects.
♂ —— 21.	9 4 44	58 53 11 ‡	56 7 1/3	61 39 U.	204 18	18 25	6	70	☽ and ☉.
	12 10 36	56 53 26 ‡	14 13 1/4	74 35 U.	204 21 1/2	18 26	4	76 1/2	☽ and ☉.
♀ —— 24.	10 25 20 1/2	99 31 48 ‡	42 2 9/10	37 30 U.	199 40		6	74 1/2	☽ and ☉.
	10 37 55	99 34 51 ‡	39 17 2/3	40 21 1/3 U.	199 38 1/2		5	72 1/2	☽ and ☉.
♄ —— 25.	9 45 53 1/2	112 0 10	52 5 1/5	14 25 1/3 U.	197 24 1/10	19 55 2/3	5	74	☽ and ☉.
☽ Oct. 4.	3 37 39	135 18 54 ‡		14 30 1/3 U	184 51 1/4	At Tongataboo. Lat. 21° 4′ ½.	7	66 1/2	☽ and ☉.
☿ —— 6.	5 25 20	112 53 41 ‡		9 52 1/3 U.	185 14 1/4		10	69 1/2	☽ and ☉.
♃ —— 7.	3 14 15	102 42 37	16 42	41 29 1/6 U.	185 5 1/4	21 57 1/2	6	71 1/2	☽ and ☉.
♀ —— 8.	5 51 17	90 39 15 †	53 8 1/4	23 3 1/4 U.	185 20		4	70 1/2	☽ and ☉.
♄ —— 9.	3 9 16	79 57 51	16 6 1/10	50 46 1/3 U.	184 26 2/3	22 37	10	69 1/2	☽ and ☉.
	5 22 46	79 21 3	46 29 1/2	37 56 1/3 U.	184 46	22 40	6	70	☽ and ☉.
☉ —— 10.	5 35 42	67 28 18 †	48 10 1/3	45 0 U.	183 7 1/4		10	67 1/2	☽ and ☉.
☽ —— 11.	3 43 21 1/2	55 46 34 ‡	22 23 1/6	50 16 1/6 U.	182 2 1/4		6	67 1/2	☽ and ☉.
	6 2 30	55 4 22 †	52 55 1/2	49 27 2/3 U.	181 45 1/3		6	63	☽ and ☉.
☿ —— 20.	8 57 51	55 9 33 ‡	60 56 1/6	44 30 2/3 U.	179 39 1/4	37 47 1/2	6	59 1/2	☽ and ☉.
	11 58 23 1/3	56 19 40 ‡	39 43 2/3	69 52 2/3 U.	179 21	38 0	6	59	☽ and ☉.
♃ —— 21.	10 56 27 1/4	69 30 22	45 30 1/4	53 49 2/3 U.	178 13 2/3	39 10	6	60	☽ and ☉.
	13 41 34 1/2	70 23 40	14 57 1/3	67 29 2/3 L.	177 59 1/3	39 17	4	59	☽ and ☉.
	At the time of these last Observations, Table-Head in New Zealand bore due North.								
♀ —— 22.	11 33 49 1/2	82 54 40	39 38	48 17 1/3 U.	176 44 9/10	40 30	3	57	☽ and ☉.
	These were taken between Cape Turnagain and Black-Head in New Zealand.								
	12 43 5	83 19 39	26 58 1/6	58 59 U.	176 17 9/10	40 30	6	58	☽ and ☉.
♄ —— 23.	10 53 19 1/2	95 23 10	46 56	29 53 1/3 U.	175 53 1/4	40 51	6	55 1/2	☽ and ☉.
	13 18 26 1/4	96 18 44	20 54 1/4	54 16 1/4 U.	176 6 1/3	40 53 1/2	6	55	☽ and ☉.
☉ —— 24.	11 12 5	107 52 11	43 38 1/6	21° 52 U.	175 33 1/3	41 30	6	60	☽ and ☉.
	13 4 43 1/3	108 37 48	23 34	41 24 1/6 U.	175 22 1/4	41 32	6	58	☽ and ☉.
♂ Nov. 9.	2 35 55	63 33 36	14 59 1/6	41 14 U.	178 37 1/4	In Tolaga Bay, Lat. 38° 21′ ½.	6	57 1/2	☽ and ☉.
☿ —— 10.	2 8 2	50 48 22	10 1 7/10	34 12 U.	178 30 1/4		12	56	☽ and ☉.
♃ —— 18.	12 14 41	51 14 26	33 54 2/3	66 6 1/6 L.	177 59 1/4	40 02	6	59	☽ and ☉.
♄ —— 20.	14 15 55	78 7 2 †	11 55	59 37 5/6 L.	176 14 1/4		6	54	☽ and ☉.
☽ —— 22.	12 49 15	102 3 52	28 3 1/4	41 13 U.	176 8 9/10	40 58	6	56	☽ and ☉.
	Cape Turnagain N. N. W. by Compass distant 7 or 8 leagues.								
	14 14 9	102 30 20	12 27 1/6	51 41 1/3 U.	176 11	40 57	6	56	☽ and ☉.
♂ —— 23.	11 39 10 1/2	113 14 48	41 29 2/3	20 32 1/3 U.	175 51 1/2	40 57	6	61 1/2	☽ and ☉.
☿ Dec. 22.	14 16 47	105 55 28	13 50 1/3	41 38 1/6 U.	174 31 1/3	41 20	6	65	☽ and ☉.
♃ —— 23.	12 43 30 1/3	116 25 53	30 22 1/6	23 48 U.	175 16 1/2	42 29	6	65 1/2	☽ and ☉.
1774.									
♂ Jan. 4.	2 1 4	102 9 18	27 22 2/3	29 38 U.	192 11 1/4	55 15 1/2	6	49	☽ and ☉.
	2 53 38	101 47 30	34 55	24 49 1/2 U.	192 5	55 17	6	48	☽ and ☉.
♄ —— 8.	2 5 1	63 21 30	33 26 1/6	44 53 1/4 U.	202 26	57 8 1/2	6	36	☽ and ☉.
☿ —— 19.	6 14 29	82 20 10	41 1 1/2	17 12 1/4 U.	241 37 1/4	59 26	6	40	☽ and ☉.
	6 27 37	82 25 30	39 34 1/2	18 13 1/6 U.	241 39	59 27	3	40	☽ and ☉.
	7 29 59	82 48 58	32 10 2/3	21 53 1/6 U.	241 52 1/6	59 28	6	39 1/2	☽ and ☉.
♀ —— 21.	9 51 23 1/2	105 48 38 †	11 26	16 21 1/4 U.	247 32 1/4		2	39 1/2	☽ and ☉.

1774	Time by No 1 H ′ ″	Distance ☽'s L. from ☉'s or * ° ′ ″	Altitude of the ☉'s L. L. or * ° ′	Moon's Altitude ° ′	Longitude East of Greenwich ° ′	Latitude of the Ship S ° ′	No. of Obs	Thermom	Objects
☉ Jan 30	12 36 17	41 30 37	21 43½	11 51½ L	286 19¾	61 28	4	41½	☽ and Spica ♍
☿ Feb 2	17 46 9	111 40 8	16 55⅓	30 41 U	301 13	60 39	6	41	☽ and ☉
	19 34 28	110 51 58	30 18½	20 49 U	301 49¾	60 38	6	41½	☽ and ☉
♂ —— 22	1 12 56⅓	125 7 25 †	14 41	8 17 U	349 56⅓	53 14	6	39	☽ and ☉ back Obs
♀ —— 25	3 9 41	70 11 33 ‡	15 46⅓	13 51⅓ L	358 34⅓	53 25	3	38	☽ and Aldebaran
	4 41 9	63 4 38 ‡	15 3	0 55 L	359 0⅓		3	38	☽ and Spica ♍
♄ —— 26	Having completed 360° of Longitude, and of course gained a day, it was here rectified by repeating this								
☿ March 2	12 38 27	118 44 33	8 44⅛	38 29⅞ U	11 42⅙	53 44	3	34	☽ and ☉
	14 20 38⅓	118 0 15	23 30⅝	25 45⅓ U	11 29⅓	53 38	6	34	☽ and ☉
☉ —— 6	17 28 57	63 32 58 ‡	46 2⅓	34 31½ U	13 46¾	48 15	6	40	☽ and ☉
☽ —— 7	18 47 18	62 54 28 ‡	45 6⅝	22 2 U	13 58½	48 15	6	40	☽ and ☉
	12 55 47½	52 5 50	13 24	53 7½ L	13 56⅓	47 53	6	38	☽ and ☉
♂ —— 15	22 26 0⅓	37 30 58 †	15 42½	13 35 L	11 10½		4	69½	☽ and ☉
	0 45 0½	32 49 16 ⊢	28 20⅓	10 0½ L	16 39		6	68	☽ and Aldebaran
☿ —— 16	19 55 52½	48 12 26	43 36	41 33½ U	16 56	34 35	6	68½	☽ and ☉
♃ —— 17	20 49 32	59 37 50	33 5	39 54⅓ U	17 59½	The Table Mountain E by S 6 leagues.			☽ and ☉
	22 11 10	59 59 14	16 54½	38 56 U	17 48⅓	34 10	6	70	☽ and ☉
♀ —— 18	21 52 56½	70 54 59	20 0	38 46 U	18 22	In the Mouth of Table Bay			☽ and ☉
☿ April 20	20 27 25	106 29 56	22 16⅓	18 50⅝ U	15 58	32 28	6	64	☽ and ☉
♀ —— 22	23 29 33	36 11 21 †	21 22⅓	38 32⅝ U	13 17	30 0	6	63	☽ and Spica ♍
	23 48 13	54 47 32 ⊢	28 47⅓	41 39½ U	13 29⅙		6	63	☽ and Pollux
♀ —— 29	13 13 29½	125 32 28 †	17 8⅓	34 35 U	3 28 7/10		6	69½	☽ and ☉ back Obs
	15 7 52	124 36 45 †	39 25⅝	9 22⅓ U	3 45 7/10		6	71½	☽ and ☉
♄ —— 30	12 59 46½	112 4 0½ ‡	14 4	51 9⅝ U	2 51⅙		6	69½	☽ and ☉
	14 23 20½	111 30 5 †	31 17⅓	32 8⅓ U	2 42		5	74	☽ and ☉
☉ May 1	14 39 47	98 6 52	34 13⅓	41 4 U	2 6½	20 30	6	70½	☽ and ☉
	15 36 7	97 37 2	43 59	28 13½ U	1 58	20 29	4	71½	☽ and ☉
☽ —— 2	12 56 46	85 40 34	13 7⅓	76 5⅓ U	1 19 9/10	19 38	6	69½	☽ and ☉
♂ —— 3	12 33 23	73 1 58 ‡	8 8⅓	78 45⅝ L	0 53⅓ West		6	70	☽ and ☉
♃ —— 5	19 25 52	58 17 45 ‡	45 20⅓	8 20 U	0 14		3	71½	☽ and ☉
	16 21 7	47 28 30 †	50 18⅝	60 13⅝ U	1 10		6	72½	☽ and ☉
♀ —— 13	17 53 13	42 55 27 †	62 32⅛	32 54⅓ U	11 58½	7 59	6	75	☽ and ☉
☉ —— 15	20 59 2	54 43 19 ‡	43 19⅓	59 30 U	14 32	6 25	6	81½	☽ and ☉
	23 27 17	66 22 5	11 58	68 8 L	16 4	4 55	2	82½	☽ and ☉

1774.	Time by No. 1. H ′ ″	Distance ☽'s L. from ☉'s or ✱. ° ′ ″	Altitude of the ☉'s L. L. or ✱. ° ′	Moon's Altitude. ° ′	Longitude West of Greenwich. ° ′	Latitude of the Ship S. ° ′	No. of Obs.	Thermom.	Objects.
♂ May 17.	23 24 26	77 40 39	14 13	70 40 U.	17 29¼	3 40	6	79¼	☽ and ☉.
☿ —— 18.	23 14 36	89 12 18	18 4⅔	63 5⅙ U.	19 19¼	2 21	6	80⅛	☽ and ☉.
♃ —— 19.	23 20 11	101 5 55	17 58⅔	54 42 U.	20 3⅔	0 43 North.	6	80¼	☽ and ☉.
♀ —— 20.	21 10 19	113 17 2	21 1⅙	41 1⅔ U.	20 38¾	0 34	6	80	☽ and ☉.
	1 59 17	26 32 28 †	57 28⅓	82 19 U.	20 34½	0 49	3	78½	☽ and Spica ♍.
♃ —— 26.	6 26 6	39 46 5 ‡	34 37	54 10 L.	24 35¼	6 2	4	76	☽ and α Aquilæ.
	6 38 42	65 13 7 ‡	43 18¼	56 19¾ L.	24 28¼		4	76	☽ and Spica ♍.
♄ —— 28.	10 38 17½	51 27 27	22 35 9/10	65 2⅔ L.	25 20¼	6 34	5	75	☽ and Antares.
	11 5 9	53 43 0	58 0¼	63 16 U.	25 9¼		5	75	☽ and α Pegasi.
	The apparent time of this last Observation was got from the altitudes of Antares.								
♂ —— 31.	14 53 39	89 10 10	33 59¼	56 22⅓ U.	24 56	6 56	4	79	☽ and ☉.
	16 3 51	88 45 37	49 59	40 11⅗ U.	25 3 1/10	6 56	6	80	☽ and ☉.
☿ June 1.	13 31 7	77 14 20	15 30	79 44⅙ L.	25 18¼	7 5	6	79½	☽ and ☉.
♃ —— 2.	15 8 24	64 51 40	37 13¼	77 25¼ U.	25 45	7 11	4	82	☽ and ☉.
	16 2 23	64 36 20	49 22⅓	65 3⅙ U.	25 54	7 11	6	82	☽ and ☉.
♀ —— 3.	14 44 25	53 16 52 †	31 28	83 36 L.	26 32¼	7 36	2	80	☽ and ☉.
☉ —— 12.	21 37 27	37 13 7	54 7	88 5¼ U.	34 52¼	16 34	4	75	☽ and ☉.
	2 36 31¼	26 21 32 †	47 29⅓	26 2⅔ L.	35 3¼		6	74¼	☽ and Regulus.
☽ —— 13.	0 11 23½	48 59 16 †	19 58⅔	66 57⅚ L.	35 53		6	75	☽ and ☉.
	2 38 1	67 48 45 †	61 36⅓	32 45⅓	35 33⅞		6	74¼	☽ and Spica ♍.
♂ —— 14.	0 16 28½	60 20 47	19 20¼	74 8½	36 24⅘	19 29	4	75	☽ and ☉.
	2 44 32¼	55 30 11 †	60 17⅗	40 49⅚ L.	36 17¼		5	75	☽ and Spica ♍.
☿ —— 15.	21 25 59	71 8 5	58 38⅙	49 45⅓ U.	36 43⅓	21 8⅓	6	75½	☽ and ☉.
♃ —— 16.	23 15 2½	83 31 44	34 42⅔	59 54⅓ U.	37 36 9/10	22 33	5	77	☽ and ☉.
	3 24 6	30 10 7½ †	57 10⅙	56 3⅙ U.	37 35		6	76	☽ and Spica ♍.
♀ —— 17.	22 58 34½	95 38 31 ‡	39 16⅔	43 46⅙ U.	38 39⅚		6	79	☽ and ☉.
	3 12 47	17 3 11 †	15 18⅔	57 37⅔ L.	38 18		6	77	☽ and Spica ♍.
	3 55 21	37 28 40 †	26 20	50 19¼ L.	38 21		5	77	☽ and Regulus.
	4 17 48½	62 27 22 †	35 32⅓	45 58⅚ L.	38 33⅔		6	77	☽ and Antares.
♄ —— 18.	0 56 45½	108 54 43	14 0⅔	52 9⅙ U.	39 15⅔	25 27	6	77	☽ and ☉.
	3 45 42	49 11 06 †	31 13⅔	54 49¼ L.	39 21¼		5	76	☽ and Antares.

1774	Time by No. 1 H ′ ″	Diſtance ☽'s L. from ☉'s or ☆	Altitude of the ☉'s L. L. or ☆	Moon's Altitude	Longitude Weſt of Greenwich	Latitude of the Ship S	No of Ob	Thermom	Objects
☉ June 19	22 38 44	120 58 48	44 14	13 46 U	39 18½	26 44	6	77½	☽ and ☉
	5 6 29	34 56 49 †	36 28	45 56 L	39 10½	27 6	5	75½	☽ and Antares
☽ —— 20	0 24 17	135 11 29	21 21	21 18 U	38 49¾	28 11	6	77	☽ and ☉ back Obſ
♂ —— 21	0 55 32	149 13 3	15 1	13 57½ U	39 19	29 40	6	76	☽ and ☉ back Obſ
	5 29 35	58 48 48 †	38 8⅚	43 8 L	39 30		3	74½	☽ and α Aquilæ
	5 48 26	42 6 26 †	28 16⅙	42 49 L	39 35⅘		3	74¾	☽ and Spica ♍
♃ —— 23	5 7 15	72 28 8 †	30 55¼	28 23¼ L	40 36⅞		4	74	☽ and Spica ♍
☽ —— 27	13 32 1	119 43 52 ‡	18 53	32 48 U	40 10¼	37 51½	6	71	☽ and ☉
	13 49 0	119 37 3	22 0	30 15 U	40 17⅜	37 51¼	6	71	☽ and ☉
♂ —— 28	12 51 31	107 12 40	12 6½	44 47 U	39 47¼	38 31	6	72	☽ and ☉
	13 10 27	107 6 33	15 36	43 26 U	39 50½	38 31	6	72	☽ and ☉
☿ —— 29	14 13 2	94 27 12	28 26⅙	44 59 U	39 17⅞	39 3½	6	73	☽ and ☉
	14 43 44	94 16 48	34 22	41 15 U	39 12⅜	39 4	6	73	☽ and ☉
♃ —— 30	16 4 40	81 55 35	51 [illegible]2	37 28⅙ U	37 34	39 57	6	73	☽ and ☉
♄ July 2	18 10 52½	58 23 22½ ‡	70 32½	33 55¾ U	34 18⅞		4	72	☽ and ☉
☉ —— 3	13 43 11	49 39 58	29 9	56 28⅙ U	33 0⁷⁄₁₀	42 32	6	70	☽ and ☉
♃ —— 14	21 5 4½	65 28 23	20 31⅙		1 10	Spithead	6	56	☽ and ☉

⁂ It muſt here be obſerved, that all altitudes are put down as they were obſerved with Hadley's Sextant, from the ſhip's deck; and conſequently are to be corrected for the ſemi diameter of the object, the refraction, and dip of the horizon, which, on board the Adventure, was about 3′ 50″. The lower limb of the Sun was always obſerved; but as this could not be the caſe with reſpect to the Moon, I have diſtinguiſhed theſe Obſervations, where the lower limb was obſerved by the letter L, and thoſe where the upper limb was obſerved by the letter U. Where the character † occurs in the column of diſtances, the apparent time at the ſhip was got from the altitudes of the Sun taken next immediately preceding the diſtances, and of courſe the longitude put down is the longitude of the ſhip at the time when thoſe altitudes were taken. The character ‡ ſignifies that the apparent time at the ſhip was got from the altitudes of the Sun next immediately following. Where neither of theſe are found, the time was obtained from the altitudes of the Sun or Star taken with the diſtances.

A Z I M U T H S

OF THE

SUN's CENTER,

Taken with an AZIMUTH COMPASS,

TOGETHER WITH

The ALTITUDES of his LOWER LIMB,

Taken at the ſame Time with HADLEY's SEXTANT,

For determining the Variation of the MAGNETIC NEEDLE.

By Mr. WILLIAM BAYLEY, and others,

On Board his MAJESTY's Sloop ADVENTURE.

1772.	Altitude of the Sun's L. L. ° ′	Magnetic Azimuth of the ☉'s Center. ° ′	Variation West. ° ′	No. of Obs.	Latitude North. ° ′	Longitude West. ° ′	Observers.	Remarks.
♄ July 18.	13 56⅓	N. 51 34 W.	22 21	3	46 33	7 50		
♃ —— 23.	18 46⅔	S. 77 41⅔ E.	22 14	3	40 43	11 15		
♀ —— 24.	10 22⅓	N. 45 23 W.	24 15	1	39 30	11 52		
☽ Aug. 3.	13 51⅓	N. 58 17⅓ W.	19 33	4	29 14	17 30		
♂ —— 4.	Amplit.	N. 37 45 W.	18 20	2	28 28	18 5		
☿ —— 5.	11 2⅔	N. 59 58⅔ W.	16 45	3	27 28	18 30		
♃ —— 6.	12 46	N. 91 47⅓ E.	14 9	4	24 42	19 20		
♀ —— 7.	8 21⅓	N. 62 20 W.	13 42	3	23 41	19 35		
♄ —— 8.	Amplit.	N. 34 0 W.	16 52⅓	1	21 48	20 10		
	18 40⅓	N. 92 45 E.	12 58	3	20 42	20 40		
☉ —— 9.	16 27⅓	N. 62 46⅔ W.	16 16	3	20 0	21 0		
♂ —— 18.	18 46⅓	N. 69 5 W.	9 11⅓	2	12 48	20 45		
☿ —— 19.	15 29	S. 88 32⅓ E.	9 16	2	10 50	19 40		
☽ —— 24.	13 38	N. 68 41⅓ W.	12 2	3	6 20	14 30		
♃ —— 27.	26 34⅔	N. 69 6⅔ W.	12 10	3	4 9	10 46		
♀ —— 28.	13 6¼	S. 82 12⅓ E.	16 29	4	3 20	8 39		
♄ —— 29.	9 47⅓	N. 96 33⅓ E.	14 50	3	2 47	6 55		
☽ —— 31.	17 13⅓	N. 98 7⅓ E.	16 24	2	2 4	5 40	Mr. Fannin.	
♂ Sept. 1.	16 52⅔	N. 95 20 E.	12 48	3	1 29	6 22		
♃ —— 3.	14 39¼	N. 97 7⅓ E.	14 8	4	0 49	9 20		
♀ —— 4.	19 37	N. 70 52⅓ W.	12 10	4	0 50	9 36		
♄ —— 5.	13 26	N. 69 6⅔ W.	14 29	3	0 57	9 52		
	Amplit.	N. 69 0 W.	14 32	1	0 56	9 46		
	19 1	N. 99 25 E.	15 47	3	0 40	9 20		
☉ —— 6.	13 29⅔	N. 70 55 E.	13 0	3	0 31	9 17		
					South.			
☽ —— 7.	17 45	S. 80 50 E.	14 56	3	0 10	9 35		
♂ —— 8.	13 19	S. 81 25 E.	14 1	5	0 36	10 27		
☿ —— 9.	17 30	S. 81 39 E.	13 51	4	1 40	11 5		
♃ —— 10.	14 58	S. 82 15 E.	13 1	2	2 46	11 20		
♄ —— 12.	13 20⅓	N. 75 33⅓ W.	9 27	3	4 22	13 58		
☽ —— 14.	14 47	N. 73 27⅓ W.	11 33	2	6 43	14 37		
	Amplit.	N. 76 0 W.	10 56	1	6 43	14 37		
☿ —— 16.	11 14	N. 75 45 W.	7 55	1	9 54	15 57		Very good.
♄ —— 19.	17 49⅔	N. 78 35⅔ W.	5 30	3	14 9	18 42	Mr. Rowe.	
	Amplit.	N. 84 30 W.	4 23	1	14 10	18 43	Mr. Rowe.	
☽ —— 21.	20 17⅔	S. 87 15 E.	4 29	3	18 22	20 30		
♀ —— 25.	Amplit.	S. 86 15 E.	2 9	1	23 55	22 50		
♄ —— 26.	Amplit.	N. 92 30 E.	2 30	1	24 28	22 45		
☉ —— 27.	Amplit.	N. 94 0 E.	1 32	1	25 17	22 30		
	11 50	S. 88 40 E.	1 52	2	25 18	22 30		
♃ Oct. [illegible]	14 39⅔	S. 82 53 W.	3 44	4	27 28	18 0		
1773.						East.		
☿ Jan. 6.	14 11	S. 47 20 E.	22 30	5	60 26	27 30		
☉ —— 10.	18 25⅓	N. 75 30 W.	25 47	3	62 14	34 40	Mr. Fannin.	A compass made by Gregory.
	17 46½	N. 77 35 W.		4			Mr. Bayley.	

1773	Altitude of the Sun's L. L.	Magnetic Azimuth of the ☉'s Center	Variation West	No. of Ob.	Latitude South	Longitude East	Observers	Remarks
○ Jan 10	18 25½	N 74 6½ W	27 35	3	62 14	34 40	Mr Bayley	A Knight's compass made by Adams
	17 46¾	N 75 30 W		4			Mr Fannin	

Mr Bayley remarks, that the four preceding Observations were made in consequence of their finding that the variations, observed on board the Resolution, differed from those observed on board the Adventure; and he says that Knight's Compass stood on the fore part of the quarter deck, and that made by Gregory on the poop

1773	Altitude of the Sun's L. L.	Magnetic Azimuth of the ☉'s Center	Variation West	No. of Ob.	Latitude South	Longitude East	Observers	Remarks
☽ —— 11	17 39½	N 75 45 W	27 17	2	63 40	35 40		
	8 56½	S 32 0 E	26 14	5	64 15	37 0		
♂ —— 12	19 4½	N 72 17½ W	26 3	7	64 12	37 10		
☿ —— 13	16 54	S 45 15 E	31 5	2	64 4	39 30		Very good
♃ —— 14	16 9	S 103 45 W	28 41	3	63 57	39 35		Good also
	14 11	S 103 0 W	31 30	3	63 57	39 35		Gregory's Compass
♄ —— 16	15 13	S 103 22½ W	29 43	4	65 0	40 3		Knight's ditto
			29 49				Mr Fannin	
			28 51				C Furneaux	
♀ —— 22	20 2¼	S 53 8½ E	33 0	6	60 24	17 40		
			33 30				Mr Kempe	
☿ —— 27	15 5	S 49 6½ E	30 55	3	55 5	52 10		
♂ Feb 2	11 12½	S 45 26½ E	32 28	8	48 43	58 53		
♃ —— 4	16 19½	N 64 10 W	31 22	3	49 37	56 57		Very good
♀ —— 5	18 37½	N 69 18¼ W	8 55	4	48 32	60 20		
			28 55		48 32	60 20	C Furneaux	
			29 10		48 32	60 20	Mr Fannin	
♄ —— 6	7 34	N 75 23½ W	28 55	5	48 9	61 22		
	Evening Amplitude		28 48		48 9	61 30		Great motion
○ —— 7	18 23	N 69 17 W	28 1	5	49 7	6, 30		
♀ —— 12	16 3½	S 49 21 E	32 3	3	51 0	71 30		
○ —— 14	15 37½	N 58 47 W	32 15	5	51 50	76 35		Good
	9 53½	S 47 4¾ E	35 14	4	52 0	78 28	Mr Kempe	
♃ —— 18	8 33½	S 51 23½ E	31 40	3	52 52	91 48		
♄ —— 20	13 15¾	S 59 59½ E	30 11	4	52 20	99 23		
○ —— 21	16 16	N 56 28¼ W	29 11	4	52 8	100 6		
♂ —— 23	3 19	N 76 40 W	24 46	6	52 16	105 10		
	Evening Amplitude		25 17		52 16	105 18		Great motion
☿ —— 24	13 4	N 65 0 W	22 22	1	52 2	107 27		
♃ —— 25	15 0	N 65 25 W	20 21	1	51 32	111 12		
	Evening Amplitude		21 4		51 32	111 20		
	15 23	S 72 11¾ E	23 27	4	51 21	113 5		
♄ —— 27	2 42	N 81 6½ W	15 25	3	50 34	118 48		
	Evening Amplitude		15 50		50 34	118 54		
○ —— 28	11 54¾	S 81 6¾ E	11 18	4	49 30	124 17		
☿ March 3	18 18	N 73 48 W	6 26	5	45 58	130 50		
	13 21½	S 91 29 E	3 9	5	45 17	131 25		
			East					
♀ —— 5	20 39¾	N 75 15 E	2 5	4	43 46	138 42		Great motion

	1773.	Altitude of the Sun's L. L. ° '	Magnetic Azimuth of the ☉'s Center. ° '	Variation East. ° '	No. of Obs.	Latitude South. ° '	Longitude East. ° '	Remarks.
♄	March 6.	10 $50\frac{1}{3}$	S. 94 56 E.	1 36	5	43 57	141 0	Great motion.
☉	—— 7.	8 $51\frac{1}{2}$	N. 90 $3\frac{1}{3}$ W.	1 33	3	43 46	142 12	
♂	—— 9.	23 $6\frac{1}{2}$	N. 79 $47\frac{3}{4}$ W.	7 6	9	43 42	145 20	
		Amplit.	S. 77 10 W.	7 2	1	43 42	145 30	
☿	—— 10.	25 26	N. 58 40 E.	10 34	4	43 22	147 30	In Adventure Bay.
☽	—— 15.	11 $20\frac{2}{3}$	S. 89 $8\frac{1}{3}$ W.	9 6	3	43 23	147 30	
♂	—— 16.	22 $19\frac{1}{2}$	N. 62 $22\frac{1}{2}$ E.	7 45	2	42 5	148 41	
☿	—— 17.	5 $52\frac{1}{6}$	S. 86 $43\frac{1}{3}$ W.	6 57	3	41 10	147 50	
		8 $38\frac{3}{5}$	N. 74 51 E.	8 45	5	40 57	147 48	
♀	—— 19.	13 11	N. 72 $2\frac{1}{4}$ E.	6 58	2	39 15	149 46	
♄	—— 20.	11 $39\frac{2}{3}$	S. 91 $38\frac{1}{3}$ W.	8 14	6	39 22	150 40	
☿	—— 24.	21 $12\frac{2}{5}$	N. 56 $53\frac{1}{3}$ E.	11 45	3	39 16	157 13	
♃	—— 25.	9 $6\frac{1}{2}$	S. 88 $56\frac{1}{4}$ W.	11 18	4	39 26	158 7	
		7 $49\frac{1}{2}$	N. 69 45 E.	10 41	4	39 54	159 15	
♀	—— 26.	13 $6\frac{1}{8}$	N. 86 15 W.	10 53	8	40 13	160 14	
♄	—— 27.	8 $55\frac{1}{6}$	N. 88 45 W.	10 13	9	40 16	161 16	
☉	—— 28.	14 11	N. 84 $9\frac{1}{6}$ W.	11 5	6	40 19	161 40	
		9 $15\frac{3}{8}$	N. 66 25 E.	10 55	6	40 32	162 41	
♂	—— 30.			12 41	3	41 17	165 16	
♄	April 3.	6 35	N. 64 $34\frac{2}{3}$ E.	12 12	5	40 18	173 10	Off Cape Farewell.
☉	—— 4.	4 $53\frac{2}{3}$	N. 51 53 E.	15 2	5	41 2	174 0	In Cook's Straits.
☽	—— 5.	9 23	N. 87 12 W.	14 3	7	40 55	174 1	In Admiralty Bay.
	May.	Q. Charlotte's Sound.		13 $31\frac{1}{4}$	82	41 6	174 $1\frac{7}{8}$	
☽	June 7.	5 $20\frac{1}{4}$	N. 39 45 E.	13 1	4	41 37	174 30	Off Cape Pallisser.
☽	—— 21.	10 $44\frac{4}{5}$	N. 30 14 E.	10 34	5	44 30	196 17	
♂	—— 22.	10 $8\frac{9}{10}$	N. 52 55 W.	10 59	5	44 32	196 47	
☉	—— 27.	12 $27\frac{3}{4}$	N. 29 $56\frac{1}{4}$ E.	10 4	4	42 29	197 55	Gregory's Compass.
		13 $45\frac{3}{4}$	N. 28 $36\frac{1}{4}$ E.	10 10	4	42 29	197 55	Knight's Compass.
☽	—— 28.	13 $8\frac{1}{6}$	N. 29 $31\frac{1}{2}$ E.	10 23	6	42 40	198 50	
♂	—— 29.	10 $37\frac{1}{4}$	N. 33 $20\frac{2}{3}$ E.	9 21	7	42 56	200 09	
♃	July 1.	10 $32\frac{7}{8}$	N. 53 $36\frac{1}{7}$ W.	9 58	7	43 6	202 35	
♀	—— 2.	6 $16\frac{2}{3}$	N. 39 18 E.	9 51	5	43 9	204 43	
♂	—— 6.	6 $13\frac{3}{4}$	N. 59 $36\frac{1}{8}$ W.	7 56	8	41 52	208 35	
♃	—— 8.	12 0	N. 35 45 E.	7 37	4	42 33	212 15	
☉	—— 11.	7 41	N. 55 16 W.	6 $1\frac{1}{2}$	4	43 28	217 41	
☽	—— 12.	Amplit.	N. 64 30 W.	5 23	1	43 7	219 31	
♂	—— 13.	4 $42\frac{1}{6}$	N. 60 $29\frac{1}{2}$ W.	6 24	6	42 50	220 38	
♄	—— 17.	7 $29\frac{4}{5}$	N. 49 49 E.	5 43	5	38 4	225 10	
☉	—— 18.	8 $58\frac{4}{5}$	N. 59 $31\frac{7}{8}$ W.	5 13	8	37 42	225 30	
☽	—— 19.	9 8	N. 61 $4\frac{1}{4}$ W.	5 38	4	36 20	225 33	
		5 31	N. 52 $5\frac{1}{3}$ E.	6 33	5	36 41	225 37	
♃	—— 22.	5 $51\frac{1}{7}$	N. 69 $3\frac{2}{3}$ W.	5 59	7	30 46	225 0	
		6 $57\frac{4}{5}$	N. 56 $19\frac{4}{5}$ E.	5 43	7	29 33	224 5	
☽	—— 26.	10 $17\frac{2}{3}$	N. 66 $26\frac{1}{3}$ W.	5 31	6	28 34	224 15	
		9 $37\frac{4}{5}$	N. 55 $52\frac{2}{5}$ E.	6 0	5	28 0	225 5	
☿	—— 29	12 $36\frac{1}{2}$	N. 66 $17\frac{1}{6}$ W.	5 33	6	27 20	223 52	
		5 $38\frac{2}{3}$	N. 70 55 W.	5 29	5	27 20	223 56	

1773	Altit. of the ☉ L. L. ′	Magnetic Azimuth of the ☉ [illegible]	Variation East °	No. of Az.	Latitude South	Longitude East	Remarks
♀ July 30	1 46[illegible]	N 66 57$\frac{4}{7}$ W	5 6	7	26 57	224 54	
♄ —— 31	6 11$\frac{1}{7}$	N 71 13 W	6 23	5	6 9	225 15	
☉ Aug 1	1[illegible] 41[illegible]	N 57 38$\frac{1}{8}$ E	6 17	6	23 27	226 18	
☽ ——	5 22$\frac{1}{2}$	N 62 54$\frac{1}{4}$ E	5 12	6	22 25	226 55	
♂ —— 3	6 40$\frac{1}{6}$	N 72 36[illegible] W	4 29	6	21 59	227 3	
☿ —— 4	8 $\frac{1}{7}$	N 72 44$\frac{1}{7}$ W	4 54	7	21 14	227 18	
♃ —— 5	6 5$\frac{1}{7}$	N 73 22$\frac{1}{7}$ W	4 6	7	20 28	227 57	
♂ —— 10	Amplit	N 69 10 E	4 41	1	17 19	219 5	
	4 32[illegible]	N 68 28$\frac{1}{7}$ E	4 50	7	17 19	219 5	
♃ —— 12	Amplit	N 69 0 E	5 29	1	17 14	215 30	
	6 10[illegible]	N 66 46[illegible] E	5 35	6	17 14	215 26	
☉ —— 15	7 3[illegible]	N 66 47 E	6 9	4	17 48	210 50	
♄ —— 21	15 15	N 65 56[illegible] E	5 38$\frac{1}{4}$	6	17 44$\frac{1}{4}$	210 35	
August			5 0	29	17 29$\frac{1}{4}$	210 27$\frac{1}{2}$	At Point Venus
♀ Sept 3	10 30$\frac{1}{4}$	N 85 27[illegible] W	6 43	6	16 45	208 51$\frac{1}{4}$	Huaheine
♄ —— 4	11 4[illegible]$\frac{1}{4}$	N 85 42$\frac{1}{4}$ W	7 0	4	16 45	208 51$\frac{1}{4}$	Ditto
☉ —— 5	8 37[illegible]	N 86 23$\frac{1}{4}$ W	6 14	4	16 45	208 51$\frac{1}{4}$	Ditto
	Amplit	N 89 30 W	6 34	1	16 45	208 51$\frac{1}{4}$	Ditto
☽ —— 6	5 4 [illegible]	N 87 33$\frac{1}{3}$ W	6 2	6	16 45	208 51$\frac{1}{4}$	Ditto
♂ —— 7	9 45$\frac{1}{4}$	N 86 32[illegible] W	6 14	7	16 58	208 32	Off Ulietea
♃ —— 9	11 49[illegible]	N 86 45$\frac{1}{8}$ W	6 0	6	16 45$\frac{1}{3}$	208 35	At Ulietea
☿ —— 15	4 18$\frac{1}{4}$	N 91 51$\frac{1}{4}$ W	6 15	4	16 45$\frac{1}{3}$	208 35	Ditto
♄ —— 18	12 0$\frac{1}{4}$	N 89 58$\frac{1}{4}$ W	5 50	4	17 23	206 40	
	10 41[illegible]	N 78 48$\frac{1}{3}$ E	6 12	6	17 36	206 20	
☉ —— 19	13 28[illegible]	N 77 45 E	6 9	5	17 55	205 5	
☽ —— 20	13 21[illegible]	N 77 23$\frac{1}{3}$ E	7 7	3	18 20	204 40	
♂ —— 21	7 48[illegible]	N 93 35 W	6 53	3	18 27$\frac{1}{2}$	204 17	
	9 22[illegible]	N 79 23$\frac{1}{3}$ E	6 57	6	18 36	203 49	
☉ —— 26	12 38[illegible]	N 78 22$\frac{1}{4}$ E	8 26	6	20 36	193 37	
☿ —— 29	7 22[illegible]	N 80 40$\frac{1}{6}$ E	9 21	6	21 16	186 46	
♄ Oct 2	11 6$\frac{1}{4}$	N 99 3$\frac{1}{4}$ W	9 3	6	21 21$\frac{1}{4}$	185 26	At Eaoowe
☉ —— 3	Amplit	S 75 27 W	10 11	1	21 4$\frac{1}{4}$	185 4	At Tongatabu
♃ —— 7	11 29[illegible]	S 78 15 W	10 11	6	21 9	185 0	
♀ —— 8	9 16	S 76 5 W	11 14	3	22 5	184 57	Great motion
☽ —— 11	1[illegible] 24	N 79 34$\frac{1}{4}$ E	11 19	4	25 3	181 58	
♂ —— 12			11 25	4	26 53	181 1	
☿ —— 13	14 4$\frac{1}{4}$	S 76 46$\frac{1}{4}$ W	11 39	4	27 32	180 50	
	16 46$\frac{1}{5}$	N 78 42$\frac{1}{3}$ E	11 28	6	28 24	180 18	
♃ —— 14	6 17$\frac{1}{8}$	N 84 15$\frac{1}{6}$ E	11 53	6	29 48	179 50	
☉ —— 17	10 56[illegible]	S 72 12$\frac{5}{6}$ W	13 41	6	32 48	180 0	
	14 47$\frac{1}{4}$	N 78 25$\frac{1}{4}$ E	13 17	4	33 30	180 2	
☿ —— 20	7 52	N 84 0 E	13 16	6	38 54	178 35	
♃ —— 21	13 9$\frac{1}{4}$	S 73 56$\frac{1}{4}$ W	13 4	4	39 18	177 58	Off New Zealand
	8 44$\frac{1}{6}$	N 83 28$\frac{1}{2}$ E	13 32	6	39 53	177 16	Ditto
♀ —— 20	1[illegible] 2[illegible]	S 66 35 W	14 43	6	41 48$\frac{1}{2}$	175 58	Ditto
☿ Nov 3	10 29	S 65 40$\frac{1}{8}$ W	13 21	6	41 18	176 42	Ditto
♃ —— 4	8 57$\frac{1}{6}$	S 64 4$\frac{1}{2}$ W	13 12	6	41 38	175 40	Cape Pallifer due North

1773.	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s Center. ° ′	Variation East. ° ′	No. of Obs.	Latitude South. ° ′	Longitude East. ° ′	Remarks.
♂ Nov. 9.	8 $4\frac{1}{6}$	S. 87 $47\frac{3}{5}$ E.	13 12	6	38 $21\frac{1}{4}$	178 $33\frac{3}{4}$	In Tolaga Bay.
☿ —— 10.	5 $53\frac{1}{6}$	S. 86 50 E.	14 20	6	38 $21\frac{1}{4}$	178 $33\frac{3}{4}$	Ditto.
☽ —— 15.	11 46	N. 91 $1\frac{1}{3}$ E.	13 28	6	38 $21\frac{1}{4}$	178 $33\frac{1}{4}$	Ditto.
♂ —— 16.	9 $46\frac{1}{6}$	S. 60 $57\frac{1}{5}$ W.	12 46	6	38 53	178 23	Off New Zealand.
♃ Dec. 23.	11 15	S. 83 $25\frac{5}{6}$ E.	14 56	6	42 44	175 0	
♀ —— 24.	12 $13\frac{1}{3}$	S. 54 $17\frac{1}{4}$ W.	14 59	6	43 22	175 13	
1774.							
☽ Jan. 10.	22 $12\frac{9}{10}$	S. 91 $43\frac{1}{3}$ E.	7 30	5	58 12	212 16	
☿ —— 12.	10 52	S. 57 $21\frac{2}{3}$ W.	8 44	6	58 45	215 50	
☿ —— 19.	12 $16\frac{1}{6}$	S. 62 $53\frac{1}{3}$ W.	7 57	3	59 29	242 15	
♀ —— 21.	13 $54\frac{1}{2}$	S. 62 $20\frac{5}{6}$ W.	12 1	6	60 10	247 25	
	12 $39\frac{1}{3}$	S. 83 $35\frac{1}{6}$ E.	11 4	6	59 47	248 15	
♄ —— 22.	14 $55\frac{5}{6}$	S. 64 $53\frac{1}{3}$ W.	11 49	6	59 23	249 42	
☉ —— 23.	14 $13\frac{1}{3}$	S. 64 46 W.	11 4	5	59 19	252 54	
☽ —— 24.	10 $18\frac{1}{3}$	S. 56 $41\frac{2}{3}$ W.	12 59	5	59 37	256 2	
♀ —— 28.	14 $15\frac{1}{4}$	S. 55 11 W.	22 59	6	61 47	271 50	
♄ —— 29.	14 $37\frac{1}{4}$	S. 55 $26\frac{1}{2}$ W.	24 $1\frac{1}{2}$	6	61 53	276 45	
☉ —— 30.	13 $49\frac{1}{6}$	S. 53 $55\frac{1}{6}$ W.	24 40	6	61 31	281 55	
	9 $47\frac{5}{6}$	S. 45 $18\frac{2}{3}$ W.	25 47	6	61 30	282 0	
☉ Feb. 6.	13 $26\frac{1}{4}$	N. 78 $15\frac{3}{5}$ E.	19 20	7	59 30	313 0	Knight's Compaſs.
	14 $31\frac{1}{4}$		19 41	2	59 30	313 1	Gregory's Compaſs.
☿ —— 9.	16 $4\frac{1}{6}$	S. 71 $54\frac{1}{6}$ W.	15 54	6	57 12	318 48	
☿ —— 16.	19 $23\frac{5}{6}$	S. 89 $45\frac{5}{6}$ W.	5 57	6	53 55	332 46	
	11 $11\frac{5}{6}$	S. 77 $44\frac{1}{3}$ W.	6 40	6	53 55	332 50	
	Amplit.	S. 53 57 W.	6 35	1	53 57	332 57	
☉ —— 20.	27 $9\frac{1}{10}$	N. 72 48 W.	2 14	6	53 21	341 7	
☽ —— 21.	13 $48\frac{1}{4}$	N. 88 4 E.	0 50	8	53 16	349 17	
			Weſt.				
♂ —— 22.	11 28	S. 89 $35\frac{1}{3}$ W.	1 21	6	53 14	350 7	
♃ —— 24.	12 $43\frac{1}{4}$	N. 88 $57\frac{1}{3}$ W.	4 57	6	52 51	356 7	
♄ —— 26.	11 $7\frac{1}{6}$	S. 81 $13\frac{1}{4}$ E.	9 25	6	53 25	2 28	
	Repented a day, and rejected 360 degrees of Longitude.						
♄ —— 26.	13 $30\frac{2}{5}$	N. 75 $39\frac{2}{5}$ W.	10 4	5	53 34	3 48	
♂ March 1.	12 $26\frac{1}{3}$	N. 72 $31\frac{1}{4}$ W.	11 44	6	53 48	8 21	
♃ —— 3.	10 $5\frac{1}{6}$	N. 71 $5\frac{1}{4}$ W.	16 20	6	52 57	12 10	
☽ —— 7.	12 $23\frac{1}{3}$	N. 66 $45\frac{4}{5}$ W.	16 54	10	48 15	14 2	
	10 22	S. 77 $26\frac{1}{3}$ E.	16 48	6	47 53	14 0	
♄ —— 12.	6 $22\frac{1}{4}$	S. 71 $53\frac{1}{3}$ E.	19 51	6	40 24	15 10	
	11 7	S. 75 $52\frac{1}{4}$ E.	19 58	6	40 24	15 10	
☉ —— 13.	16 25	N. 59 $20\frac{5}{6}$ W.	20 9	6	39 $36\frac{1}{4}$	15 18	
☽ —— 14.	13 3	N. 61 $56\frac{2}{3}$ W.	20 52	5	37 2	16 10	
♀ —— 16.	13 $29\frac{1}{4}$	S. 71 5 E.	20 49	4	34 21	17 32	
			21 $32\frac{1}{4}$	20	33 $55\frac{1}{4}$	18 $23\frac{1}{4}$	Cape of Good Hope.
☽ April 18.	5 $1\frac{1}{6}$	S. 87 $6\frac{2}{3}$ E.	19 43	3	32 57	16 25	
♂ —— 19.	7 $19\frac{5}{6}$	S. 89 $21\frac{2}{3}$ E.	19 $29\frac{1}{3}$	6	32 38	16 3	
♃ —— 21.	8 $1\frac{1}{6}$	S. 90 $54\frac{2}{3}$ E.	18 27	6	30 33	13 9	

1774	Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉ Center	V[illegible]	(	[illegible] South	Longitude [illegible]	Remarks
♀ April 22	Amplit.	N 60 45 W	18 54	1	30 0	13 05	
	5 58	S 90 0 E	18 8	6	9 7	13 18	
☽ —— 25	7 45	S 93 25 E	15 37	6	25 7	8 40	
♂ —— 26	5 50	S 92 42 E	15 14	(	24 2	7 24	
☿ —— 27	5 41	N 56 50 W	15 6	3	23 38	7 4	
♀ —— 29	6 2	S 93 13½ E	15 21	(	1 29	3 38	
♄ —— 30	5 44½	S 94 1 E	14 41	4	0 56	2 45	
☽ May 2	5 11	S 94 0 E	14 44	5	19 39	1 21	
	Amplit.	N 87 25 E	14 -5	1	19 30	0 53	
♂ —— 3	3 29	S 94 5 E	14 15	3	19 30	0 53	
						West	
♃ —— 5	6 8	S 96 40½ E	13 22	4	17 58	1 11	
☽ —— 9	6 43	N 57 16½ W	12 35	3	14 33	5 9	
☿ —— 11	6 7	N 80 47 E	10 44	6	11 0	9 9	
♀ —— 13	5 24	N 59 21¾ W	10 39	4	8 57	11 17	
	7 33	N 60 26 E	10 40	6	8 15	11 58	
♄ —— 14	11 0¼	N 78 15 E	9 37	4	6 52	13 56	
☉ —— 15	7 2	N 78 51 E	9 5	3	5 33	15 28	
☽ —— 16	10 46	N 78 50 E	9 31	3	4 17	16 56	
♂ —— 17	8 12	N 78 41 E	8 57	6	2 53	18 44	
☿ —— 18	5 12	N 78 31 E	8 36	4	1 21	19 40	
♃ —— 19	11 30	N 60 41 W	8 45	3	0 42	20 10	
					North		
♀ —— 20	7 44	N 78 25 E	8 42	3	1 19	20 41	
♂ —— 24	8 44⅓	N 76 45 E	7 16	(	5 19	22 17	
☿ —— 25	11 20	N 76 31 E	7 27	3	5 50	22 48	
♂ —— 31	15 26¼	N 61 28 W	7 28	(	6 38	25 20	
☿ June 1	8 56	N 76 20½ E	7 48½	4	7 4	25 24	
♀ —— 3	9 7	N 75 7 E	6 46½	4	7 31	26 33	
☽ —— 6	11 16	N 73 27 E	5 4	5	9 6	28 33	
♂ —— 7	12 55	N 63 10 W	4 41	4	9 30	29 2	
♃ —— 9	7 20	N 63 56 W	4 0	3	12 9	31 24	
♀ —— 10	9 41	N 71 23 E	2 55	5	14 23	33 39	
♄ —— 11	7 16	N 64 30 W	3 19	6	15 4	34 1	
♂ —— 14	12 12	N 74 3 E	4 17	6	20 23	36 30	
☿ —— 15	10 55	N 64 13 W	4 51	5	21 14	36 50	
♃ —— 16	9 44	N 63 2 W	5 17	5	22 41	37 40	
	9 38	N 74 13 E	5 35	6	[illegible] 24	38 13	
♄ —— 19	9 53	N 64 14 W	6 28	4	25 35	39 14	
☽ —— 20	14 35	N 62 38 W	8 20	(	28 14	39 4	
	15 20¼	N 79 57 E	8 11		28 57	39 20	
♀ —— 24	13 2½	N 60 20 W	10 7	6	34 42	40 29	
♀ July 6	5 48	N 39 48 W	22 42	5	48 19	20 20	

A

J O U R N A L

OF THE

SITUATIONS of his Majeſty's Sloop ADVENTURE each Day at Noon, during her late Voyage on Diſcoveries towards the South;

As ſhewn by the Log, by Mr. ARNOLD's two Time-keepers, No. 1. and No. 2. and alſo by Obſervation.

TOGETHER WITH

The LONGITUDES and LATITUDES of the moſt remarkable Places ſeen in that Voyage.

By Mr. WILLIAM BAYLEY.

1772.		Course.	Dist.	Latitude North by Account.	Latitude North by Observat.	Longitude West by Account.	Longitude West by Observat.	Longitude West by No 1.	Longitude West by No. 2.	Remarks.
		°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′	
☉	July 12.			50 $21\frac{1}{2}$		4 $16\frac{1}{3}$	Took a departure from Drake's Island.			
☽	—— 13.				50 6	4 $33\frac{1}{3}$				
♂	—— 14	S. $16\frac{1}{3}$ W.	$45\frac{1}{2}$	49 $22\frac{1}{2}$		4 $52\frac{1}{2}$		4 $48\frac{1}{8}$	4 $41\frac{1}{8}$	
☿	—— 15.	S. $27\frac{2}{3}$ W.	25	49 0	48 $50\frac{1}{3}$	5 18		5 $11\frac{1}{4}$	5 $7\frac{1}{8}$	
♃	—— 16.	S. 43 W.	105	47 33	47 $29\frac{1}{3}$	7 11		7 $1\frac{1}{4}$	6 $56\frac{1}{8}$	
♀	—— 17.	S. 18 W.	68	46 24	46 26	7 $41\frac{1}{2}$		7 $18\frac{2}{3}$	7 $10\frac{7}{8}$	
♄	—— 18	N. 35 W.	$34\frac{1}{2}$	46 45		8 $1\frac{3}{4}$		7 $39\frac{1}{3}$	7 $27\frac{4}{5}$	
☉	—— 19.	S. $19\frac{2}{3}$ W.	83	45 28	45 $20\frac{2}{3}$	8 46		8 5	7 $51\frac{1}{4}$	
☽	—— 20.	S. $4\frac{1}{2}$ W.	77	44 4	43 56	8 55		8 $14\frac{1}{3}$	7 $56\frac{1}{8}$	
♂	—— 21	S. $53\frac{2}{3}$ W.	44	43 30	43 $29\frac{2}{3}$	9 41		8 $35\frac{2}{3}$	8 $12\frac{1}{8}$	
☿	—— 22.	N. $66\frac{1}{8}$ W.	17.3	43 $33\frac{1}{3}$	43 $37\frac{1}{3}$	10 $3\frac{1}{2}$	9 32	8 $42\frac{1}{3}$	8 $18\frac{1}{8}$	
♃	—— 23.	S. $35\frac{3}{4}$ W.	93.7	42 20	42 16	11 33	11 28	9 $59\frac{1}{8}$	9 $32\frac{1}{8}$	
♀	—— 24.	S. 28 W.	156	39 59	40 $3\frac{3}{4}$	13 07	11 55	11 $29\frac{1}{3}$	10 $55\frac{4}{5}$	
♄	—— 25.	S. 28 W.	156	37 44	37 $40\frac{1}{3}$	14 45	13 33	12 $51\frac{7}{8}$	12 $14\frac{1}{8}$	
☉	—— 26.	S. 27 W.	143	35 40	35 32	16 6	14 54	14 $14\frac{1}{3}$	13 $34\frac{1}{8}$	
☽	—— 27.	S. 19 W.	114	33 44	33 42	16 50	15 38	15 $2\frac{1}{8}$	14 $18\frac{1}{8}$	
♂	—— 28.	S. $49\frac{3}{4}$ W.	81	32 50	32 48	18 7	16 55	16 $10\frac{1}{3}$	15 $25\frac{1}{8}$	
☉	Aug. 2.				32 $0\frac{1}{3}$	16 29		16 $56\frac{1}{8}$	15 $49\frac{1}{8}$	
☽	—— 3.	S. 23 W.	$51\frac{1}{2}$	27 $52\frac{1}{2}$	27 53	16 52		17 $19\frac{1}{8}$	16 $9\frac{1}{8}$	
♂	—— 4.	S. $28\frac{2}{3}$ W.	73	28 $37\frac{3}{4}$	28 40	17 32	18 3	18 $8\frac{1}{8}$	16 $53\frac{1}{8}$	
☿	—— 5.	S. 23 W.	$51\frac{1}{2}$	27 52	27 53	17 $55\frac{1}{2}$	18 26	18 $41\frac{1}{8}$	17 $13\frac{1}{8}$	
♃	—— 6.	S. $10\frac{1}{6}$ W.	108	26 7	26 $6\frac{1}{2}$	18 17	19 2	19 $2\frac{1}{2}$	17 $32\frac{1}{8}$	
♀	—— 7.	S. 11 W.	$124\frac{1}{2}$	24 5	24 9	18 42	19 27	19 $4\frac{1}{8}$	17 $56\frac{1}{8}$	
♄	—— 8.	S. $12\frac{3}{4}$ W.	114	22 18	22 10	19 11	19 56	19 $57\frac{1}{3}$	18 $25\frac{1}{8}$	
☉	—— 9	S. 23 W.	125	20 14	20 9	20 05	20 $50\frac{3}{4}$	20 $24\frac{1}{8}$	18 $53\frac{1}{8}$	
☽	—— 10.	S. $23\frac{3}{4}$ W.	140	18 1	18 01	21 $4\frac{2}{3}$	22 $11\frac{3}{4}$	21 $38\frac{1}{8}$	20 $01\frac{1}{8}$	
♂	—— 11.	S. $19\frac{3}{4}$ W.	116	16 12	16 12	21 45	22 50	22 $19\frac{1}{8}$	20 $40\frac{1}{8}$	
☿	—— 12.	S. $30\frac{1}{3}$ W.	$75\frac{1}{2}$	15 7		22 $24\frac{1}{2}$	23 25	22 $48\frac{1}{8}$	21 $6\frac{1}{8}$	
		Porto Praya in St. Jago.			14 54		23 29			
♄	—— 15.	S. $30\frac{1}{3}$ E.	74	13 48		22 48	22 48	22 $30\frac{1}{8}$	20 $33\frac{1}{8}$	
☉	—— 16.	S. 7 E.	$86\frac{1}{2}$	12 22	12 22	22 37	22 30	22 $20\frac{1}{8}$	20 $20\frac{1}{8}$	
☽	—— 17.	S. 45 E.	45.3	11 50		22 04	21 57	21 $47\frac{1}{8}$	19 $44\frac{1}{8}$	
♂	—— 18.	S. $34\frac{2}{3}$ E.	51.6	11 20	11 25	21 28	21 $21\frac{1}{3}$	20 $42\frac{1}{8}$	18 $38\frac{1}{8}$	
☿	—— 19.	S. $36\frac{2}{3}$ E.	47.7	10 47		20 59	20 52	19 $12\frac{1}{8}$	17 $6\frac{1}{8}$	
♃	—— 20.	S. $8\frac{1}{3}$ E.	73.7	9 34		20 48	20 41	19 $34\frac{1}{8}$	17 $27\frac{1}{8}$	
♀	—— 21.	S. $33\frac{1}{3}$ E.	32	9 7	8 41	20 12	20 06	18 $58\frac{1}{8}$	16 $48\frac{1}{8}$	
♄	—— 22.	S. $47\frac{1}{2}$ E.	68.2	7 55	7 52	19 22	19 16	18 $7\frac{1}{8}$	15 $54\frac{1}{8}$	
☉	—— 23.	S. $39\frac{1}{3}$ E.	$76\frac{1}{2}$	6 56	6 $53\frac{1}{2}$	18 30	18 24	16 $3\frac{1}{8}$	13 $50\frac{1}{8}$	
☽	—— 24.	S. $66\frac{1}{2}$ E.	73.8	6 24	6 $24\frac{1}{2}$	17 24	17 18	14 $35\frac{1}{8}$	12 $20\frac{1}{8}$	
♂	—— 25.	S. $55\frac{1}{2}$ E.	$55\frac{1}{2}$	5 $52\frac{1}{2}$	5 54	16 38	16 32	13 $49\frac{1}{8}$	11 $31\frac{1}{8}$	
☿	—— 26.	S. 59 E.	$64\frac{3}{4}$	5 12	5 10	15 43	15 37	11 $46\frac{1}{8}$	9 $29\frac{1}{8}$	
♃	—— 27.	S. 41 E.	$74\frac{3}{4}$	4 16	4 14	14 54	14 48	10 $56\frac{1}{8}$	8 $34\frac{2}{3}$	
♀	—— 28.	S. $63\frac{2}{3}$ E.	$74\frac{1}{2}$	3 44	3 41	13 47	13 41	9 $22\frac{1}{8}$	6 $41\frac{1}{8}$	It appears from the Watch that a current has set for several days East, or nearly so, and the Observ. confirm it.
♄	—— 29.	S. $65\frac{1}{3}$ E.	$62\frac{3}{4}$	3 $13\frac{2}{3}$	3 $15\frac{2}{3}$	12 $50\frac{3}{4}$	12 $44\frac{3}{4}$	8 $47\frac{1}{8}$	5 $44\frac{1}{3}$	
☉	—— 30.	S. $61\frac{1}{3}$ E.	$75\frac{3}{4}$	2 38	2 40	11 44	11 38	6 $28\frac{1}{8}$	4 $5\frac{1}{8}$	
☽	—— 31.	S. $84\frac{1}{2}$ E	62.6	2 34	2 $34\frac{1}{2}$	10 $42\frac{3}{4}$	10 $36\frac{3}{4}$	4 $18\frac{3}{8}$	1 $48\frac{1}{3}$	
♀	Sept. 1.	S. $45\frac{3}{4}$ W.	49	1 59	1 59	11 18	5 $46\frac{3}{4}$	4 $36\frac{1}{8}$	2 $0\frac{1}{8}$	

1772			Course	Dist.	Latitude North by		Longitude West by				Remarks
				Miles	Account	Observat.	Account	Observat.	No 1	No 2	
☿	Sept	2	S 53 W	59 6	1 23	1 23	12 5½	6 34½	4 24	4 48	
♃	——	3	S 72 W	74¼	1 0	1 01	13 16	8 32	6 35	4 5	
♀	——	4	S 81 W	64¼	0 49	0 51	14 20	9 31	7 56	5 24	
♄	——	5	N 69¼ W	157	0 56	0 56¼	14 35	9 42	8 08	5 37	
☉	——	6	S 64 E	48	0 35	0 36	13 53	9 21	7 12	4 32	
☽	——	7	S 72 E	43	0 23	0 23¼	13 13	8 44	6 25	3 56	
					South	South					
♂	——	8	S 57½ W	76¼	0 18	0 18	14 18	9 49	7 28	4 54	
☿	——	9	S 54 W	62	0 54	0 54¼	15 08	10 39	8 24	5 52	
♃	——	10	S 31 W	72	1 56¼	1 57½	15 45	11 16	9 45	7 11	
♀	——	11	S 31¼ W	72	2 58	2 59½	16 23	11 54	10 55	8 19	
♄	——	12	S 22¼ W	75 6	4 10	4 10½	16 52	12 46	11 4	9 9	
☉	——	13	S 41¼ W	72¼	5 3¼	5 5	17 40	13 34	12 46	10 6	
☽	——	14	S 32 W	98¼	6 29¼	6 29½	18 33	14 27	13 47	11 7	
♂	——	15	S 21½ W	106	8 9¼	8 10	19 12	15 06	14 26	11 46	The Ship [illegible] [illegible]ribly to the S W of her reckoning
☿	——	16	S 22¼ W	94	9 36	9 37	19 47	15 41	15 20	12 39¼	
♃	——	17	S 28½ W	95	10 59	10 0⅓	20 31	16 28	16 1	13 28	
♀	——	18	S 25¼ W	95¼	12 26	12 26½	21 15½	17 38⅓	16 41½	14 01	
♄	——	19	S 29¼ W	113	14 25	14 4½	22 13½	18 36	17 39	14 42	
☉	——	20	S 24½ W	99	15 35	15 34½	22 56½	19 14	18 17	15 13	
☽	——	21	S 23¼ W	111	17 08	17 9⅓	23 38	19 56	18 56⅓	16 13	
♂	——	22	S 15 W	93	18 39	18 39½	24 3	20 36	19 26	16 35	
☿	——	23	S 10½ W	88	20 03	20 6½	24 20	21 32	19 56	17 3	
♃	——	24	S 10¼ W	83¼	21 29¼	21 28½	24 36½	22 01	20 17	17 4	
♀	——	25	S 31¼ W	96	22 48	22 50	25 30	22 55	20 40	17 59	
♄	——	26	S 5¼ E	83¼	24 11	24 13	25 21 4	22 46 4	21 30	18 13	
☉	——	27	S 2½ E	27	24 38 6	24 40	25 20 2	22 45 2	21 22	17 36	
☽	——	28	S 22¼ E	52	25 25	25 28	24 58	22 23	21 11	17 23½	
♂	——	29	S 57 E	82¼	26 13	26 13	23 42	21 50	19 50	16 3	
☿	——	30	S 67½ E	119	27 0	26 58	21 40	19 48	17 41	13 53	
♃	Oct.	1	S 57½ E	105	27 23	27 25	19 43	18 13	15 32	11 41	
♀	——	2	S 77¼ E	42¼	27 34	27 33	18 57	17 07	14 35	10 29½	A S W swell
♄	——	3	S 68½ E	85¼	28 05	28 04	17 18	16 02	12 53	8 45	Ditto
☉	——	4	S 64½ E	128	28 59	28 58½	15 09	14 11	10 27	6 8	Ditto
☽	——	5	S 88¼ E	77¼	29 01	29 0	13 32½	12 21	8 47		
♂	——	6	S 8½ W	42¼	29 43½	29 42¼	13 42	12 29	8 54⅓		
☿	——	7	South	96	31 18	31 18	13 40	12 29	9 7		
♃	——	8	S 9½ E	85	32 42	32 42½	13 23	12 12	8 50		
♀	——	9	S 42 E	94 3	33 51¼	33 52½	12 07	10 56	7 56		
♄	——	10	S 67½ E	93	34 27	34 28½	10 24	19 13	5 25		
☉	——	11	S 78 E	63¼	34 41	34 41	9 8	6 50	4 5		
☽	——	12	S 73 E	24	8 37	6 04	8 37	6 04	3 33		
♂	——	13	S 71 E	58¼	35 08	35 09	7 30	6 0	2 25		
☿	——	14	S 77½ E	92¼	35 30	35 29½	5 34	4 04	0 29		
♃	——	15	S 88 E	95 6	35 33	35 33	3 25	1 51	East. 1 55		
♀	——	16	N 82½ E	142¼	35 13	35 14	0 27	East 1 07	5 06½		

1772.	Course.	Dist.	Latitude South by		Longitude East by			Remarks.
	°	Miles.	Account. ° ′	Observat. ° ′	Account. ° ′	Observat. ° ′	No. 1. ° ′	
♄ Oct. 17.	N. 81 E.	110	34 57	34 57¼	1 41	4 49	7 25 4/7	
☉ —— 18.	N. 79½ E.	135	34 33	34 33	4 27	7 35	10 9⅞	
☽ —— 19.	N. 78¾ E.	58	34 22	34 21	5 27	8 35	10 58⅞	
♂ —— 20.	S. 38 E.	30.4	34 45	34 45	5 49.6	8 7¼	11 24⅞	
☿ —— 21.	S. 21 E.	50¼	35 33	35 32	6 16	8 37	11 24⅞	
♃ —— 22.	S. 17 E.	80	36 48¼	36 49	6 45	9 6	11 53⅞	
♀ —— 23.	S. 56¼ E.	35.3	37 09	37 10	7 24	9 45	12 32⅞	
♄ —— 24.	N. 61¼ E.	99.3	36 39	36 39	9 22¼	11 43½	15 8 4/7	
☉ —— 25.	N. 58 E.	138	35 27¼	35 26	11 47¼	14 08	17 24¼	
☽ —— 26.	N. 59½ E.	85¼	34 42	34 43	13 16¼	15 37	18 32 4/7	
♂ —— 27.	N. 47 E.	82	33 47	33 47	14 29¼	16 50	19 33½	
☿ —— 28.	N. 79¼ E.	49	33 39	38 38	15 28¼	17 49	20 23⅞	
♃ —— 29.	S. 78¼ E.	68	33 51¼	——	16 49	19 09	21 43⅞	
☽ Nov. 23.	S. 40 W.	49½	34 33	34 34	17 41½	——	17 38½	
♂ —— 24.	S. 9½ E.	46½	35 18.6	35 20	17 51¼	——	17 47¾	
☿ —— 25.	S. 22½ W.	123	37 13.6	37 14	16 52¾	——	16 39¾	Both days the ship
♃ —— 26.	S. 20¾ W.	113½	39 0	39 0	16 01¾	——	15 42¼	was S. W. of Acc.
♀ —— 27.	S. 24¾ E.	67	40 0	40 01	16 37½	——	16 34¼	
♄ —— 28.	S. 5 W.	54	40 55	40 55	16 31¼	——	16 28	
☉ —— 29.	S. 1 W.	74.4	42 9	42 8	16 36	——	16 26¼	
☽ —— 30.	S. 53¼ E.	30	42 27	42 26	17 9½	17 39	17 54¾	
♂ Dec. 1.	S. 5 E.	48½	43 15	43 14	17 20	17 53¼	18 5¼	
☿ —— 2.	S. 68½ E.	33	43 26	——	18 3½	18 36¾	17 57¾	
♃ —— 3.	S. 10¾ E.	63	44 29	44 28	18 20	18 40	19 23½	
♀ —— 4.	S. 11¼ W.	79	45 45	45 44	17 58½	18 2	18 44	
♄ —— 5.	S. 14⅛ W.	87	47 9	47 9	17 27¼	17 31	18 10¼	
☉ —— 6.	S. 2 E.	73½	48 23	43 23	17 30½	17 34½	18 13¾	
☽ —— 7.	S. 1½ W.	86.1	49 48	49 49	17 0¼	17 4	17 43¼	
♂ —— 8.	N. 83½ E.	28½	49 46	——	17 37¼	17 41½	18 21¼	
☿ —— 9.	S. 72 E.	12	49 50	49 47	17 55¼	18 0	21 05¼	
♃ —— 10.	S. 5½ W.	77½	51 3	51 4	17 43¼	17 48	20 55¼	The first Ice Island.
♀ —— 11.	S. 17½ E.	48	51 50	51 50	18 6¼	18 11	21 43¼	Ice Islands.
♄ —— 12.	S 23½ W.	62	52 46	——	17 17¾	17 23	20 54¼	Many Ice Islands.
☉ —— 13.	S. 1¾ E.	65.2	53 51	——	17 21¼	17 26½	21 8¼	Ditto.
☽ —— 14.	S. 25¾ E.	68	54 52	54 52	17 48¾	18 16½	21 58¼	Ditto Penguins.
♂ —— 15.	S. 57½ E.	17	55 2	Cloudy.	18 14¼	18 41½	22 23¾	Ice Islands.
☿ —— 16.	N. 75⅚ E.	57	55 06	Cloudy.	18 21½	18 49½	22 41½	Many ditto.
♃ —— 17.	S. 45⅙ E.	28½	55 20	55 21	18 59½	19 27	23 54¼	Ditto ditto.
♀ —— 18.	S. 10 E.	20½	55 1	Cloudy.	19 5¼	24 26	24 13¼	Ditto ditto.
♄ —— 19.	N. 44½ E.	36	54 34	Cloudy.	19 49¾	25 10	25 30¼	S. S. E. current,
☉ —— 20.	N. 73½ E	79	54 11	Cloudy.	22 6¼	27 27	27 46¼	ran ½ a mile an h.
☽ —— 21.	N. 84½ E	41	54 7	54 7	23 6¼	28 27	29 40½	Many Ice Islands.
♂ —— 22.	S. 23¾ E.	49	54 50	54 52	23 40¼	29 1	30 14½	Ditto.
☿ —— 23.	S. 50½ E.	51.6	55 25	55 24	24 52¼	30 12	32 2¼	Ditto.
♃ —— 24.	S. 5⅓ W.	66	56 30	56 29½	24 42¼	30 02	32 0	Log 48 feet to 29″½.
♀ —— 25.	S. 20½ W.	90	57 54	Cloudy.	23 46¼	29 6	——	Ditto.
♄ —— 26.	S. 67½ W.	94	58 30	58 30	21 4¼	26 22	27 32¼	Little Ice.

1772			Course	Dist. Miles	Latitude South by Account	Latitude South by Obser.	Longitude East by Account	Longitude East by Obser.	Longitude East by N	Remarks
☉	Dec	27	N 82¼ W	64½	58 21	58 21	18 48+	24 6	25 16+	Current S S [illegible] of [illegible]
☽	——	28	S 73 W	62	58 39	Cloudy	16 53¼	22 11	23 [illegible]	Many birds
♂	——	29	S 65¼ W	74	59 10	59 11	14 39¼	19 57	21 7+	Little Ice
☿	——	30	S 75½ W	46	59 22	59 22	13 7¼	18 25	17 2/+	Many Penguins
♃	——	31	S 59½ W	65	59 55	Cloudy	11 27¼	16 45	21 /+	Fog, 18 feet to 2[illegible]
	1773									
♀	Jan	1	S 74½ W	55	60 9	Cloudy	9 42¼	15 0	14 02+	Fog, 48 feet to 79
♄	——	2	S 55 W	6[illegible]	59 15	59 20	7 54½	10 4	10 58+	Many Penguins
☉	——	3	S 84¼ E	40	59 22	Cloudy	9 4¼	11 24	12 18+	Much Ice
☽	——	4	N 76½ E	95	59 0	59 1	12 4½	14 24	15 8+	Many whales
♂	——	5	S 76 E	151¼	59 37	Cloudy	16 54¼	19 14	20 8+	Swell from N W
☿	——	6	S 79½ E	130	59 59½	59 59	20 46¼	23 8		Ice
♃	——	7	S 73 E	120	60 34	60 36½	24 41¼	27 1	28 58¼	N W swell cont.
♀	——	8	S 70½ E	130	61 18	61 19	29 0¼	31 20	33 17¼	Fog, 48 feet to [illegible]
♄	——	9	S 76¼ E	67	61 36	61 35	32 6¼	33 26	35 17¼	Much ice
☉	——	10	S 55 E	38	61 56	61 55	32 10¼	34 30	37 1+	Watered at the ice
☽	——	11	S 22½ E	90	63 19	63 19	33 26½	35 46	38 18¼	Yet much ice
♂	——	12	S 30½ E	65	64 14	64 14	34 40½	37 0	39 3¼	Took up more ice
☿	——	13	East	16	64 14	64 13½	35 17½	37 37	39 40+	Much ice and few birds
♃	——	14	N 26½ E	16	63 58½	63 59	35 34½	39 41	39 57¼	
♀	——	15	S 21½ E	23¼	63 35	63 35	35 54+	40 03	40 16+	Many ice islands
♄	——	16	South	57	64 32	64 32	35 54½	40 03	39 57+	Many birds
☉	——	17	S 2½ W	124	66 36	66 34	35 44½	39 53	39 19+	Stopped by the ice
☽	——	18	S 5½ E	37 2	65 58	65 58½	35 53½	40 02	39 57+	Many ice islands
♂	——	19	N 15 E	97½	64 24½	64 29½	36 49½	40 58,	40 45+	Ditto
☿	——	20	N 37½ E	38	63 59½	Cloudy	37 49½	41 41½	40 47	Ditto
♃	——	21	N 29½ E	84½	62 45½	Cloudy	39 15+	43 14	42 10¼	Ditto
♀	——	22	N 41½ E	100	61 31	61 33¼	41 30½	45 29	44 1½	Ditto
♄	——	23	N 45 E	131	60 0½	60 2	44 37¼	48 36+	47 8	Ditto
☉	——	24	N 45 E	138	58 24	58 23½	47 48½	51 47½	50 20'	Ditto
☽	——	25	N 64¼ E	69	58 8	Cloudy	49 58½	53 57½	52 30+	Ditto
♂	——	26	North	46	57 22	Cloudy	49 58½	53 57	50 49¼	Ditto
☿	——	27	N 17 E	56	56 28	56 29½	50 27½	51 55	52 18¼	Ditto
♃	——	28	N 18 E	124	54 32	54 32	51 33½	53 01	53 12¼	Ditto
♀	——	29	N 17¼ E	130	52 29	52 27½	52 36½	54 04	54 15¼	Ditto
♄	——	30	N 45 E	107	51 30	Cloudy	53 54½	55 22	55 33¼	Ditto
☉	——	31	N 36¼ E	52	50 48	50 48	54 43½	56 11¼	58 30¼	
☽	Feb	1	N 12½ E	127	49 44	Cloudy	55 27¼	56 55	59 24¼	
♂	——	2	N 80½ E	71	48 28	48 32	57 35¼	59 3	61 34¼	Much sea weed and many divers
☿	——	3	S 40½ E	17¼	48 45	48 44½	57 51¼	59 19	62 15¼	
♃	——	4	S 63½ E	78	49 17	49 15	55 51¼	57 39	61 8¼	
♀	——	5	N 68½ W	18¼	49 3	49 4	55 9¼	60 14	60 27¼	A N W swell
♄	——	6	N 5 E	67	47 58	48 0	55 17¼	60 22¼	60 35¼	
☉	——	7	S 68¼ E	145	48 53	48 53	58 38¼	63 6	63 48¼	
☽	——	8	S 45 E	114¼	50 14	Cloudy	60 43¼	65 11	65 53¼	Lost the Resolution

1773.		Courſe.	Diſt.	Latitude South by Account.	Latitude South by Obſervat.	Longitude Eaſt by Account.	Longitude Eaſt by Obſervat.	Longitude Eaſt by No. 1.	Remarks.
		°	Miles.	° ′	° ′	° ′	° ′	° ′	
♂	Feb. 9.	S. 66 E.	10	50 20	50 18	60 59¼	65 27	66 9¼	Many penguins.
☿	—— 10.	N. 35¼ E.	31	49 54	49 53	61 27¼	65 56	67 11¼	Seals and birds.
♃	—— 11.	S. 21 E.	29	50 22	50 18	61 42⅔	66 11	67 30¼	Red-headed pen-
♀	—— 12.	S. 78⅓ E.	11.4	50 41	50 41	64 38¼	69 6¼	70 24¼	guins.
♄	—— 13.	S. 78¾ E.	121	51 5	Cloudy.	67 47¼	72 7	72 36¼	
☉	—— 14.	S 75½ E.	132	51 41	51 39¼	71 16⅞	75 35	76 23¼	Seals,whales&birds
☽	—— 15.	S. 76 E.	138	52 14	52 13	75 0¼	79 18	82 1¼	Ditto and porpoiſes.
♂	—— 16.	S. 76⅓ E.	78	52 32	Cloudy.	77 04¼	81 22	82 18¼	
☿	—— 17.	S. 79¾ E.	143	52 55	52 56	80 52¼	85 10	86 6¼	
♃	—— 18.	N. 88¼ E.	144	52 51	52 52⅓	84 51¼	88 52	89 38¼	Sea-weed.
♀	—— 19.	N. 83⅓ E.	148	52 35	52 35	88 58¼	93 0	93 47¼	
♄	—— 20.	N. 81 E.	146	52 16	52 16	92 53¼	96 55	97 48	Sea-weed.
☉	—— 21.	Eaſt.	108	52 16	52 14	95 49¼	99 51	101 5¼	
☽	—— 22.	S. 72¼ E.	46	52 28	Cloudy.	97 40	101 42¾	102 57	Saw one ice iſle.
♂	—— 23.	N. 80¾ E.	97¼	52 13	52 17⅓	100 17	104 16¾	104 58¼	Sea-weed.
☿	—— 24.	N. 83¾ E.	89	52 8¼	52 7	102 49¼	106 49	107 46¼	
♃	—— 25.	N. 78⅓ E.	128	51 40¼	51 41⅓	106 16¼	110 16	111 28¼	
♀	—— 26.	N. 81¼ E.	147	51 18	Cloudy.	109 52¼	114 2	115 19¼	
♄	—— 27.	N. 78 E.	150	50 47	Cloudy.	113 59¼	117 59	119 16¼	
☉	—— 28.	N. 81 E.	150	50 24	50 24	117 59¼	121 49	123 9¼	Rock-weed.
☽	March 1.	N. 53¼ E.	134	49 04	49 02	120 51¼	124 41	126 1¼	
♂	—— 2.	N. 52¼ E.	150	47 29	Cloudy.	123 51¼	127 41	129 1¼	Log 48 feet to 29″ ½.
☿	—— 3.	N. 56 E.	128	46 18	Cloudy.	126 25¼	130 15	132 10¼	Sea-weed, and the
♃	—— 4.	N. 42¼ E.	121	44 48	44 48¼	128 25¼	132 15	134 20¼	water diſcoloured.
♀	—— 5.	N. 67¾ E.	123	44 04	44 3⅓	131 0¼	136 10	137 17¼	
♄	—— 6.	N. 88⅓ E.	144	43 58	43 47½	134 20¼	139 30	141 0¼	
☉	—— 7.	N. 84⅓ E.	94½	43 47	43 46⅓	136 30¾	141 40	143 08¼	
☽	—— 8.	N. 87 E.	110	43 41	43 40¾	139 02¾	144 37	145 27¼	
♂	—— 9.	Eaſt.	69.6	43 43	43 45⅔	140 39¼	145 07	147 03¼	Saw land.
		Mew Stone, off Van Dieman's Land			43 48		146 27		
		The South Weſt Point of Van Dieman's Land			43 38		145 55		
		The South Eaſt Point of Van Dieman's Land			43 38		146 59		
		Adventure's Bay, in Van Dieman's Land			43 23		147 30		
☿	—— 10.	N. 76¾ E.	36	43 40	43 40	141 25¼	147 20	147 57¼	
♃	—— 11.	N. 58⅓ E.	26	43 26	43 23	141 55¼	147 30	148 46¼	
♂	—— 16.	N. 71 E.	38	13 07¼	43 08	148 19	148 26	149 33¼	
☿	—— 17.	N. 11 E.	85¼	41 44	41 44	147 56¼	148 11½	149 41¼	
♃	—— 18.	North.	82	40 22	40 21¼	147 56	148 08	150 02¼	
♀	—— 19.	N. 17¾ E.	63	39 21	39 21	148 22	148 33¼	150 19¼	
♄	—— 20.	Eaſt.	77	39 22	39 22⅓	150 01	150 13	152 0¼	
☉	—— 21	N. 85¼ E.	69¼	39 16½	39 16⅓	151 43	151 43	153 30¼	
☽	—— 22	S. 78⅓ E.	69	39 28¼	Cloudy.	152 47	152 58	154 47¼	
♂	—— 23	N. 73¼ E.	70	39 8¼	Cloudy.	154 14	154 25	156 14¼	

1773	Course.	Dist	Latitude South by		Longitude East by			Remarks
		Miles	Account	Observat	Account	Observat	No 1	
						°	°	
☿ March 24	N 79 E	58	39 59	38 57¼	155 26¼	155 37	157 12¼	
♃ —— 25	S 75¼ E	95	39 21	39 20¼	157 26¼	157 37¼	159 04¼	
♀ —— 26	S 65 E	108	40 06	40 6¼	159 33	159 44	161 02¼	
♄ —— 27	S 83 E	65 5	40 14	40 14¼	160 55	161 06	162 31¼	
☉ —— 28	East	20	40 15	40 15⅓	161 21	161 32	163 12¼	
☽ —— 29	S 64¼ E	61	40 42	40 42	162 33	163 07	164 35¼	
♂ —— 30	S 72 E	100	41 13	41 13	164 39	164 49	166 35¼	
☿ —— 31	S 77 E	90	41 33	41 33	166 37	166 47	168 34¼	
♃ April 1	N 89 E	80	41 31	41 30 9/10	168 25	168 35	170 22¼	Ship S of account
♀ —— 2	N 82 E	97	41 17	Cloudy	170 35	170 45	172 32¼	
	Cape Farewell, in New Zealand			40 38¼		172 11¼		
♄ —— 3	N 50¼ E	57	40 41	40 40	171 35	171 45	173 46¼	
☉ —— 4	N 66 E	59¼	40 16	40 16	172 45	173 15	175 13¼	
☽ —— 5	S 41¼ E	48	40 52	40 52¼	173 27	174 07	175 57	
♂ —— 6				41 3				
	Queen Charlotte's Sound in New Zealand			41 5		173 55		
	Cape Palliser, in New Zealand			41 35		175 0		
☽ June 7		7	41 3¼	41 3½	174 01	174 01	174 01	
♂ —— 8	S 39¾ E	65	41 53¼	41 53⅓	174 51	174 51	174 51	
☿ —— 9	S 54 E	99	42 51¼	42 50	176 49	176 49	176 49	
♃ —— 10	S 56 E	115	43 55¼	43 57	179 7¼	179 26	179 16	
♀ —— 11	S 56¼ E	87	44 45	Cloudy	180 47	181 06	181 06	
♄ —— 12	S 62¼ E	129	45 46	Cloudy	183 30	183 49	183 49	
☉ —— 13	S 25 E	47¼	46 29	Cloudy	184 0	184 7	184 31	A N W swell
☽ —— 14	S 69¼ E	45	46 46	46 43¼	185 07	185 14	185 30	
♂ —— 15	East	37	46 44	46 45¼	186 01	186 08	186 24	A N E swell
☿ —— 16	S 24¼ E	41	47 26	Cloudy	186 25	186 32	186 48	Ditto
♃ —— 17	N E	58	46 28	46 19¼	186 25	186 32	186 48	Ditto
♀ —— 18	N 71¾ E	96¼	45 49	45 49¼	188 37	188 44	188 11	Ditto
♄ —— 19	N 66 E	91	46 11	45 12	190 39	190 46	189 55¼	Sea-weed
☉ —— 20	N 69 E	119	44 31	44 30	193 18	193 25	192 34	Log 45¼ f to 29″¼
☽ —— 21	N 78 E	64	44 18	44 17	194 45	194 52	194 6	Log 48 feet to 29″
♂ —— 22	S 78 E	68 9	44 31	44 32¼	196 25	196 32	195 50	
☿ —— 23	S 84¼ E	55	44 37	44 36	197 42	197 49	197 13¼	
♃ —— 24	N 6¼ E	56	43 42	Cloudy	197 45	197 52	197 17	
♀ —— 25	N 28 W	33	43 13	Cloudy	197 23	197 30	196 55	
♄ —— 26	N 7¼ W	9	43 05	43 05	197 13	196 40	196 34	
☉ —— 27	North.	42	42 25	42 23	197 13⅓	196 30	196 34	
☽ —— 28	East.	41	42 24	42 23	198 09¼	198 04	197 46	
♂ —— 29	S 48¼ E	33	42 46	42 45	198 44	199 0	198 24	Many whales and birds
☿ —— 30	S 77 E	62	43 0	42 59¼	200 09	200 25	199 36	
♃ July 1	S 85¼ E	84	43 06	43 05	202 03	202 19	201 16	
♀ —— 2	N 85¼ E	65	43 0	42 59¼	203 32	203 48	202 56	
♄ —— 3	S 76 E	58	43 14	43 13	204 52	205 03	204 23	

1773.		Courfe. °	Dift. Miles.	Latitude South by Account. ° ′	Latitude South by Obfervat. ° ′	Longitude Eaft by Account. ° ′	Longitude Eaft by Obfervat. ° ′	Longitude Eaft by No. 1. ° ′	Remarks.
☉	July 4.	S. 40 E.	56	43 56	43 57¼	205 42	205 54	205 10	
☽	—— 5.	N. 71½ E.	104	43 24	Cloudy.	207 57	208 09	205 01	
♂	—— 6.	N. 20½ E.	84	42 05	42 05	208 37	208 17	208 07	
☿	—— 7.	N. 36¼ E.	60	41 17	41 17½	209 25	209 05	209 0	
♃	—— 8.	S. 62 E.	90	41 59¾	51 57	211 8	210 49	210 52	
♀	—— 9.	S. 62¼ E.	88	42 38	42 38⅛	212 52	212 33	212 57	Log 48 feet to 29″¼.
♄	—— 10.	S. 62¼ E.	130	43 38	43 38⅕	215 27	215 36	215 46	A Weftern fwell.
☉	—— 11.	N. 85¼ E.	93	43 30	43 30¼	217 39	217 23	217 58½	
☽	—— 12.	N. 78¼ E.	82	43 13	43 13¼	219 31	219 19	299 50	
♂	—— 13.	N. 71 E.	46	42 58	42 57⅓	220 32	220 20	220 56	
☿	—— 14	N. 82 E.	54	42 50	Cloudy.	221 44	221 32	222 08	
♃	—— 15	N. 24⅕ W.	18¼	42 33	Cloudy.	221 35	321 23	221 59	
♀	—— 16	N. 47 E.	102½	41 22¼	41·23	223 12½	223 0¼	223 55	
♄	—— 17	N. 43⅔ E.	138	39 42	39 42¼	225 15	225 04	226 22	A S. W. fwell.
☉	—— 18.	N. 10⅗ E.	113	37 51	37 51⅕	225 40	225 29	226 36	Swell from the South.
☽	—— 19	N. 5½ E.	81.3	36 30	36 31	225 50	225 39	226 55	Log 48 feet to 29″¼.
♂	—— 20.	N. 2½ W.	71	35 19	35 19½	225 47	225 36	226 48¼	
☿	—— 21.	N. 9¼ W.	154	34 27	Cloudy.	225 19	225 08	226 20	
♃	—— 22	N. 15½ W.	108	31 03	31 03⅕	224 46	224 35	225 34	Log 48 feet to 29″¼.
♀	—— 23.	N. 11¼ W.	104	29 21	29 21⅕	224 24	224 13	225 19	
♄	—— 24.	S. 73¼ W.	75	29 43	Cloudy.	223 0	222 49	223 55	
☉	—— 25.	S. 86 W.	44¼	29 46	29 46	222 16	222 05	223 11	
☽	—— 26.	N. 41 E.	70	28 53	28 53⅕	223 09	224 14	224 09	
♂	—— 27.	N. 10¼ W.	59	27 55	27 55½	223 20	225 14	225 10	
☿	—— 28.	N. 67½ W.	33	27 42	27 42¼	222 57	224 39	224 58	
♃	—— 29.	N. 71½ W.	41½	27 29	27 29½	222 13	223 42	224 0	
♀	—— 30	N. 64¼ E.	58	27 03	27 03½	223 15	224 44	225 17	Tropic birds.
♄	—— 31.	N. 26 E.	48	26 20	26 19¼	223 40	225 09	225 46½	Ditto.
☉	Aug. 1.	N. 33¾ E.	82	25 10	25 11	224 48	225 57	226 34	
☽	—— 2.	N. 6¼ E.	118	23 14	23 14½	224 42	226 11	126 44	Ship N. E. of account.
♂	—— 3	N. 14¼ E.	65	22 11	22 10¼	224 59	226 59	227 07	Many tropic birds.
☿	—— 4.	N. 10¼ E.	49	21 21½	21 22⅕	225 08	227 10	227 15	Ship N. E. of account.
♃	—— 5.	N. 49¼ E.	66	20 38	20 39¼	226 03	227 50¼	228 32	
♀	—— 6	N. 33½ E.	65	19 44	19 44½	226 43	228 35	229 27	
♄	—— 7.	N. 53⅕ W.	85	18 53	18 51⅞	225 29	227 21	228 13	
☉	—— 8.	N. 72⅕ W.	148	18 06	18 04⅕	222 55	224 47	225 35	Log 48 feet to 29″¼.
☽	—— 9.	N. 79 W.	116	17 42	17 41⅕	220 51	222 33	223 30	
♂	—— 10.	N. 81⅕ W.	118	17 23	17 23⅓	218 47	220 32	221 26	
		A low ifland feen this day.			17 24		218 53		
☿	—— 11.	N. 86½ W.	117	17 16	17 16⅔	216 44	218 29	219 29	
		A low ifland feen to-day.			17 6		216 34		
♃	—— 12.	N. 86¼ W.	98	17 10	17 9¼	215 02	216 10	217 54	
		Another low ifland.			17 4		215 31		
♀	—— 13.	S. 86¼ W.	75	17 15	17 14¼	213 43½	215 11	216 46	
♄	—— 14.	S. 88½ W.	110	17 17	17 17½	211 48	212 50	215 08	

1773	Course	Dist	Latitude South by Account	Latitude South by Observ.	Longitude East by Account	Longitude East by Observation	Longitude East by No. 1	Remarks
	°	Miles	° ′	° ′	° ′	° ′	° ′	
	Osnaburg Island			17 49½		211 47		
☉ Aug 15	S 74 W	106	17 46	17 46½	210 03	211 05	213 28	
☽ —— 16	West	44		17 46	209 17	210 42	212 40	
	Oaitipeha Bay, in Otaheite			17 45		210 36½		
	Point Venus, in Otaheite			17 29½		210 27½		
♃ Sept 2	N 57 W	50		16 59½	209 38½			
	Owharre Bay, in Huaheine			16 45		209 0		
	Ohamaneno Harbour, in Ulietea			16 45½		208 34 1/10		
♀ —— 17				16 50	208 11	208 11	208 03	
♄ —— 18	S 68½ W	71	17 16	17 15	207 02	207 02	206 43	
☉ —— 19	S 69 W	67	17 40	17 39½	205 54	205 54	205 30	
☽ —— 20	S 70 W	62	18 01	18 01	204 50	204 50	204 35	
♂ —— 21	S 65 W	53	18 22½	18 23½	204 0	204 25	203 39	
☿ —— 22	S 72½ W	51	18 39	18 39½	203 06	203 31	202 44	
♃ —— 23	S 73½ W	93	19 05	19 5	201 33	201 58	201 11	
	Hervey's Islands			19 16		201 50		
♀ —— 24	S 74½ W	82	19 28	19 28	200 10	200 20	199 38	
♄ —— 25	S 79½ W	119	19 52	19 52½	198 06	197 40	197 38	
☉ —— 26	S 75½ W	128	20 24	20 25	195 52	195 26	195 43	
☽ —— 27	S 83½ W	129	20 38	20 39½	193 35	193 09½	193 26	Log 48 feet to 29
♂ —— 28	S 80 W	146	21 04	21 03	190 58	190 32	190 49	
☿ —— 29	S 77 W	110	21 28½	21 28	189 01	188 35	189 40	
♃ —— 30	N 83 W	136	21 12	21 11	186 35	186 09	187 15	
♀ Oct 1	S 84 W	83	21 20	21 20	185 06	184 40	185 59	
	Anchoring Place of Tongatabu			21 4		185 10		
♀ —— 8	S 11½ W	58	22 01	22 01	185 03	185 03	184 23	
♄ —— 9	S 52½ W	36	22 25	22 25	185 36	185 28	184 54	
	Pylestaart Island			22 22		184 25		
☉ —— 10	S 66½ W	50	22 45	22 45½	184 47	184 15	183 38	
☽ —— 11	S 42½ W	93	23 54	23 53½	183 39	183 0	182 32	Ship S. W. of Account
♂ —— 12	S 28 W	110	25 31	25 30	182 42	181 43	181 31	Log 48 feet to
☿ —— 13	S 2½ W	110	27 11	27 11	181 55	180 56	180 40	Many Albatrosses
♃ —— 14	S 22½ W	97	28 42	Cloudy	181 13	180 14	180 0	
♀ —— 15	S 14 W	96	30 15	30 15	180 46	179 47	179 25	Many Albatrosses
♄ —— 16	S 2½ W	84	31 38	31 38	180 44	179 45	179 23	Many Porpoises
☉ —— 17	S 10½ E	67	32 43	32 43½	180 57	179 58	179 27	
☽ —— 18	S 6½ E	65	33 47	33 47½	181 05	180 05	179 34½	
♂ —— 19	S 5½ E	128	35 54	35 54½	181 21	180 21	179 50½	
☿ —— 20	S 6½ W	111	37 45	37 44	181 06	179 45	179 30	
♃ —— 21	S 24½ W	90	39 06	39 06½	180 19	178 26	178 10	Saw N. Zealand
♀ —— 22	S 53½ W	114	40 15	40 15	178 20	176 30	176 31	
♄ —— 23	S 28 W	44	40 53	40 53	177 56	176 05	176 14	
☉ —— 24	S 36 W	47	41 31	41 31	177 19	175 28	175 40	
☽ —— 25	S 30 W	52	42 16	42 16	176 49	174 58	175 10	
♂ —— 26	S 36 W	21	42 33	42 32½	176 38	174 42	174 48	

1773.	Course.	Dist.	Latitude South by		Longitude East by			Remarks.
			Account.	Observat.	Account.	Observat.	No. 1.	
	°	Miles.	° ′	° ′	° ′	° ′	° ′	
☿ Oct. 27.	S. 22$\frac{1}{3}$ W.	17	42 17	42 17$\frac{2}{3}$	176 29	174 33	174 39	
♃ —— 28.	East.	27	42 18	42 18$\frac{1}{3}$	177 06	175 10	174 50	
♀ —— 29.	N. 31$\frac{1}{4}$ E.	32.6	41 50	41 50$\frac{1}{3}$	177 29	175 33	175 0	
♄ —— 30.	S. 45 W.	4	41 53	41 53$\frac{2}{3}$	177 25	175 29	174 56	
☉ —— 31.	S. 12$\frac{1}{4}$ E.	40	42 32	42 32	177 37	175 41	175 08	
☽ Nov. 1.	S. 8$\frac{1}{4}$ E.	20$\frac{1}{4}$	42 52	Cloudy.	177 41	175 45	175 12	
♂ —— 2.	N. 7$\frac{1}{4}$ E.	65$\frac{1}{4}$	41 37	41 37$\frac{2}{3}$	177 56	176 0	175 06	
☿ —— 3.	N. 52$\frac{1}{4}$ W.	28	41 20	41 20$\frac{1}{4}$	177 26	175 30	175 04	
♃ —— 4.	S. 53$\frac{2}{3}$ W.	21	41 36	41 36	176 56	175 0	174 05	
♀ —— 5.	S. 34$\frac{1}{4}$ E.	19	41 49	Cloudy.	177 05	175 09	174 14	
♄ —— 6	N. 61$\frac{7}{8}$ E.	25.8	41 37	41 37$\frac{1}{2}$	177 53	175 57	175 02	
☉ —— 7.	N. 30$\frac{1}{4}$ E.	135	39 41	39 41$\frac{1}{6}$	179 21	177 25	176 30	
☽ —— 8.	N. 21$\frac{1}{4}$ E.	41	39 03	39 01$\frac{1}{3}$	179 47	177 51	176 56	
♂ —— 9.					179 36	177 40		
	Tolaga Bay, New Zealand.			38 21$\frac{1}{2}$		178 33$\frac{1}{4}$		
♂ —— 16.				38 31$\frac{1}{2}$	178 37$\frac{1}{2}$	178 37$\frac{1}{2}$	177 02$\frac{1}{2}$	
☿ —— 17.	S. 20$\frac{1}{4}$ W.	75	39 43	39 42	178 07$\frac{1}{2}$	178 07$\frac{1}{2}$	176 27	
♃ —— 18.	S. 45 W.	24	39 59	39 59	177 45	177 44$\frac{1}{2}$	176 08	
♀ —— 19.	S. 39 W.	48	40 38$\frac{1}{2}$	40 39$\frac{1}{8}$	177 09	177 08$\frac{1}{2}$	175 32	
♄ —— 20.	S. 48$\frac{1}{3}$ W.	36	41 03	41 02$\frac{7}{8}$	176 33	176 18	175 02	
☉ —— 21.	S. 89$\frac{1}{2}$ W.	22	41 05	41 05	176 08	175 53	174 37	
☽ —— 22.	East.	17	41 04	41 04$\frac{1}{4}$	176 32	176 25	175 37	
♂ —— 23.	N. 67$\frac{1}{4}$ W.	20	40 54	40 54$\frac{1}{6}$	176 08	175 53	175 07	
☿ —— 24.	S. 36$\frac{1}{2}$ W.	52	41 36	41 36$\frac{1}{4}$	175 28	175 13	174 27	
♃ —— 25.							173 30	
♀ —— 26.							173 21	
♄ —— 27.				41 57$\frac{3}{4}$				
☉ —— 28.								
☽ —— 29				42 06$\frac{1}{6}$			173 22	
	Queen Charlotte's Sound.			41 5$\frac{1}{3}$		174 7$\frac{1}{4}$		
♃ Dec. 23				42 25$\frac{1}{6}$	175 10	175 10	175 13	
♀ —— 24.	S. 12$\frac{3}{4}$ W.	36	43 0	43 0$\frac{1}{3}$	175 0	175 0	175 0	Log 48 feet to $29''\frac{1}{2}$.
♄ —— 25.	S. 22$\frac{2}{3}$ E.	107	44 39	44 39	175 56	175 56	175 59	Many grampusses.
☉ —— 26.	S. 34$\frac{2}{3}$ E.	79	45 44	45 42$\frac{7}{8}$	176 59	176 59	176 57	Many seals.
☽ —— 27.	S. 36$\frac{1}{4}$ E.	52$\frac{1}{2}$	46 25	Cloudy.	177 44	177 44	177 42$\frac{1}{2}$	Many birds.
♂ —— 28.	S. 39$\frac{1}{3}$ E.	52	47 06	Cloudy.	178 32$\frac{1}{2}$	178 32$\frac{1}{2}$	178 31	Many birds and seals.
☿ —— 29.	S. 16$\frac{1}{4}$ E.	64	48 07	48 07$\frac{1}{3}$	178 57$\frac{1}{2}$	178 57$\frac{1}{2}$	178 51	The ship S. E. of Acc.
♃ —— 30.	S. 17 E.	90	49 33	Cloudy.	179 37	179 37	179 31	Pengwins, drift-
♀ —— 31.	S. 8 E.	64	50 36	Cloudy.	179 50	179 50	179 44	wood, rock-weed, and seals.
1774.								
♄ Jan. 1.	S. 70$\frac{1}{3}$ E.	36	50 48	50 56$\frac{7}{8}$	180 44	180 44	180 55$\frac{1}{4}$	Ship S. of Acc.
☉ —— 2.	S. 65$\frac{1}{3}$ E.	97	51 38	51 36$\frac{2}{3}$	183 01	183 01	183 12	Log 48 feet to $29''\frac{1}{2}$.
☽ —— 3.	S. 50$\frac{2}{3}$ E.	148	53 11	Cloudy.	186 8$\frac{1}{2}$	186 8$\frac{1}{2}$	186 19$\frac{1}{2}$	Saw seals.
♂ —— 4.	S. 50$\frac{2}{3}$ E.	142	54 41	Cloudy.	189 15$\frac{1}{2}$	189 15$\frac{1}{2}$	189 26$\frac{1}{2}$	
☿ —— 5	S. 64$\frac{3}{4}$ E.	121	55 29	55 28$\frac{1}{4}$	192 27$\frac{1}{2}$	192 54	192 42	Whales.
♃ —— 6.	S. 62 E.	124	56 27	Cloudy.	195 41	196 07$\frac{1}{2}$	195 55$\frac{1}{2}$	Saw rock-weed.
♀ —— 7.	S. 76 E.	122	56 56	Cloudy.	199 19	199 42$\frac{1}{2}$	199 30$\frac{1}{2}$	

1774.		Course	Dist. Mil.	Latitude South by Account	Latitude South by Observat.	Longitude East by Account	Longitude East by Observation	Longitude East by [illegible]	Remarks
♄	Jan. 8	S 82 E	91	57 01	57 5	202 06	202 12	02 47	
☉	—— 9	S 77 E	101	57 29	57 28	205 25	06 01	06 06	Many whales and birds
☽	—— 10	S 75 E	94	57 56	Cloudy	208 11	06 18	206 5	
♂	—— 11	S 79 E	124	58 18	58 18	211 10	12 40	12 51	Three Ice Islands
☿	—— 12	S 74 E	66	58 40	58 40	214 43	215 20	215 5	Several Ice Islands
♃	—— 13	S 83 E	41	58 45	58 45	16 ?	216 39	217 16	Ditto
♀	—— 14	East	37	58 40	Cloudy	217 15	217 50	18 27	
♄	—— 15	S 86 E	123	58 40	58 46	221 11	221 48	223 02	
☉	—— 16	S 89 E	120	58 50	58 50	225 03	225 40	226 51	Much ice
☽	—— 17	S 82 E	118	59 05	59 5	228 54	229 31	23– 08	Log 15 t to 29
♂	—— 18	S 87 E	155	59 11	59 11	234 0	234 37	37 –9	Saw rock weed
☿	—— 19	S 84 E	1–6	59 26	59 24	38 26	241 03	41 43	A western swell
♃	—— 20	S 78 E	140	59 5	59 52	243 0	245 39	246 17	
♀	—— 21	S 68 E	41	60 05	60 09	244 26	247 20	248 05	A N W swell
♄	—— 22	N 56 E	66	59 51	59 31	246 13	–49 07	250 06	A S W swell
☉	—— 23	N 79 E	66	59 15	59 15	249 0	251 51	252 54	Ditto
☽	—— 24	S 81 E	106	59 33	59 33	25 32	255 –6	257 12	Ditto
♂	—— 25	S 69 E	150	60 1	Cloudy	56 36	59 30	261 06	Many birds
☿	—— 26	S 74 E	108	60 48	Cloudy	260 08	263 02	264 35	
♃	—— 27	S 77 E	110	61 13	Cloudy	263 51	266 45	268 16	A N W swell
♀	—— 28	S 74 E	120	61 34	61 34	267 26	270 50	73 49	Ditto
♄	—— 29	S 87 E	134	61 50	61 50	272 40	275 54	278 31	Ditto
☉	—— 30	N 84 E	116	61 34	61 34	277 46	280 40	284 03	Porpoises and birds
☽	—— 31	N 86 E	130	61 20	Cloudy	82 17	288 17	289 17	Ditto
♂	Feb. 1	N 82 E	110	61 10	61 10	208 04	92 04	292 21	A westerly swell
☿	—— 2	N 79 E	130	60 45	60 45	290 28	296 28	298 15	Ditto
♃	—— 3	N 86 E	145	60 36	60 36	95 1	302 47	303 17	Ditto
♀	—— 4	N 88 E	126	60 32	Cloudy	99 40	307 06	307 36	Birds innumerable
♄	—— 5	N 8 E	116	60 18	Cloudy	303 32	310 58	311 ?	A N W swell
☉	—— 6	N 70 E	42	60 04	Cloudy	304 53	312 19	312 49	Many Ice Islands
☽	—— 7	N 35 E	57	59 17	59 17	305 58	313 24	314 54	Many birds Ice
♂	—— 8	N 52 E	70	58 30	58 30	307 54	315 0	317 20	The westerly swell
☿	—— 9	N 55 E	118	57 20	57 20	310 5–7	318 18 7	3–0 18	continues
♃	—— 10	N 68 E	60	56 55	56 55	312 37 1	320 03 1	322 03	Many Penguins
♀	—— 11	N 65 E	54	56 –	Cloudy	314 58 ?	322 –4 2	324 24 1	Red headed Peng.
♄	—— 12	N 41 E	71	55 8	Cloudy	316 21 7	323 17 7	325 47 6	Birds
☉	—— 13	N 56 E	90	54 38	Cloudy	318 30 7	325 57 7	327 56 6	Yet a westerly swell
☽	—— 14	N 77 E	71	54 2–	Cloudy	320 33 2	327 59 –	329 59 1	Many seals Ice
♂	—— 15	N 84 E	106	54 11	Cloudy	323 33	330 49	334 59	Some seals
☿	—— 16	N 79 E	46	54 02	54 02	324 50 2	332 16 2	336 9	No westerly swell
♃	—— 17	S 85 E	99	54 10	Cloudy	327 38	335 04	338 57	Saw [illegible]
♀	—— 18	East	46	54 12	54 12	328 57	336 –3	340 16	Swell from the N
♄	—— 19	N 78 E	60	54 0	54 0	330 38	338 04	341 57	Swell from N N W
☉	—— 20	N 66 E	93	53 20	53 20	333 01	340 27	343 56	Sea weeds birds and [illegible]
☽	—— 21	S [illegible] E	108	53 24	53 23	336 02 3	343 28	346 50	Seals [illegible]
♂	—— 22	N 51 E	92	53 11	53 11	338 34	349 37	349 37	S W swell Ice

1774.	Course. °	Dist. Miles.	Latitude South by Account. ° ′	Latitude South by Observat. ° ′	Longitude East by Account. ° ′	Longitude East by Observat. ° ′	Longitude East by No. 1. ° ′	Remarks.
☿ Feb. 23.	N. 86 E.	107	53 04	Cloudy.	341 31	352 34	352 29½	A Western swell: ice.
♃ —— 24.	N. 80½ E.	101	52 46	52 46½	344 19	355 22	355 43	Ditto.
♀ —— 25.	S. 74½ E.	109.8	53 16	53 16	347 14	358 17	358 38	Ditto.
♄ —— 26.	S. 79½ E.	100	53 35	Cloudy.	349 58	0 03	1 09	Ditto.

Having made a complete revolution round the Globe, Mr. Bayley here rejected 360°, and repeated ♄, February 26, to make his day correspond with the day at Greenwich.

1774.	Course.	Dist.	Lat. Account.	Lat. Observat.	Long. Account.	Long. Observat.	Long. No. 1.	Remarks.
♄ —— 26.	N. 85¼ E.	110	53 27	53 27	353 3	3 08	4 09½	Porpoises and ice.
☉ —— 27.	S. 71¼ E.	86	53 54	53 53½	355 22	5 27	6 28½	Penguins and ice.
☽ —— 28.	S. 58½ E.	19	54 03	Cloudy.	355 48	5 52½	6 54	Several ice islands.
♂ March 1.	N. 73 E.	67	53 44	Cloudy.	357 36	7 41	9 19	Seals and birds.
☿ —— 2.	S. 75½ E.	79	54 04	54 04½	359 46	9 51	11 28	Ice.
♃ —— 3.	N. 52 E.	76	53 17	53 17¼	1 27	11 40	13 20	Whales and porpoises.
♀ —— 4.	N. 8½ W.	36¼	52 42	Cloudy.	1 18	11 31	13 11	A Western swell yet.
♄ —— 5.	N. 19¼ E.	124	50 45	50 44½	2 26	12 39	14 44	Ship N. E. of acct.
☉ —— 6.	N. 56½ E.	88	49 55	Cloudy.	4 17	14 30	16 35	Many porpoises.
☽ —— 7.	N. 4½ E.	83	48 32	48 32½	4 26	14 01½	16 48	Ice and sea-weed.
♂ —— 8.	N. 15 W.	57	47 36½	47 36¼	4 03	13 52	16 40	Some ice islands.
☿ —— 9.	N. 12 E.	119	45 41	Cloudy.	4 39	14 27½	17 12½	
♃ —— 10.	N. 8 E.	148	43 14	43 13¼	5 07	14 50	17 35	The Western swell yet.
♀ —— 11.	N. 15 W.	89	43 48	41 48⅛	4 36	14 19	17 04	
♄ —— 12.	N. 19 E.	33¼	41 16	Cloudy.	4 51	14 34	17 33	
☉ —— 13.	N. 19¼ E.	84	39 59	39 59	5 23	15 14	18 13	
☽ —— 14.	N. 13¼ E.	152	37 32	37 32½	6 07.7	16 04	18 56½	
♂ —— 15.	North.	121	35 32	35 31¼	6 07.7	16 47	18 54	
☿ —— 16.	N. 11½ E.	55¼	34 37	34 37½	6 21.3	16 51	19 14	Ship N. W. of acct.
♃ —— 17.	N. 63 E.	53	34 13	34 12¼	7 19.3	17 42	20 17½	
	Cape of Good Hope.			33 55½		18 22⅔		
☉ April 17.	N. 45 W.	60	33 13	33 12¼	17 31	17 31	17 29¼	
☽ —— 18.	N. 51½ W.	37	32 49	Cloudy.	16 54	16 54	16 52¼	
♂ —— 19	S. 70⅛ W.	46	33 4½	33 4½	16 07	16 07	16 12	Log 48 f. to 29″½.
☿ —— 20.	N. 3 E.	31	32 34	32 33⅞	16 09	16 07	16 14	
♃ —— 21.	N. 48½ W.	120	31 13	31 13½	14 22	14 22	14 23	
♀ —— 22.	N. 50¼ W.	90	30 16	30 16⅛	13 02	13 0	13 07	
♄ —— 23.	North.	60	29 15	29 14⅔	13 02	13 23½	13 08	Drift-wood.
☉ —— 24	N. 47 W.	133	27 44	27 44½	11 21	11 43	11 27	
☽ —— 25.	N. 51½ W.	146	26 13	26 13⅛	9 14	9 36	9 17	Ship N. W. of acct
♂ —— 26.	N. 39 W.	97	24 57	24 57⅔	8 05	8 28	8 04	
☿ —— 27.	N. 44 W.	97	23 48	23 47¼	6 49	7 12	6 30	
♃ —— 28.	N. 40½ W.	77	22 49	22 49⅛	5 56	6 19	5 42	
♀ —— 29.	N. 45 W.	79	21 53	21 53	4 55	5 18	4 17	Many porpoises and birds.
♄ —— 30.	N. 52 W.	51	21 21½	21 21⅓	4 11½	3 31.2	3 37	A Western swell.
☉ May 1.	N. 46 W.	43	20 51	20 51⅔	3 38½	2 40½	2 54	
☽ —— 2.	N. 43⅔ W.	40	20 22	20 22½	3 09	1 57	2 23½	
♂ —— 3.	N. 37 W.	63	19 32	19 32⅔	2 28	1 13	1 54	
☿ —— 4.	N. 70 W.	16	19 27	19 27⅓	2 12	0 50	1 42	
♃ —— 5.	N. 50½ W.	63	18 47	18 47⅔	1 21¼	0 0	0 55	Log 48 feet to 19″½.

1774	Course	Dist. Miles	Latitude South by Account	Latitude South by Observ.	Longitude [illegible] by Account	Longitude [illegible] by Observ.	[illegible]	Remarks
♀ May 6	N 49 W	101	17 41	17 41	0 02¼ West	West 1 29	0 37 West	
♄ —— 7	N 51½ W	84	16 49	16 49ᴛ	1 05¼	2 37	1 15	
☉ —— 8	N 44 W	84½	15 48	15 48ᴛ	2 06¼	3 38	2 49	
☽ —— 9	N 45 W	84	14 49	Cloudy	3 07¼	4 54	4 05	
♂ —— 10	N 48¾ W	130	13 23	13 23ᴛ	4 47ᴛ	6 34 3	5 12	
☿ —— 11	N 48¾ W	123	12 02	12 02₄	6 21 7	8 08 5	7 19	
♃ —— 12	N 44 W	110	10 43	10 43	7 39 1	9 25 9	8 36	Flying fish and
♀ —— 13	N 46ᴛ W	128	9 14	9 14ᴛ	9 13	10 59	10 06	dolphins
♄ —— 14	N 49ᴛ W	120	7 55	7 55ᴛ	10 45	12 17	11 42 7	
☉ —— 15	N 49ᴛ W	126	6 33	6 33ᴛ	12 21	14 16	13 11	Log 18 f to 29 ½
☽ —— 16	N 47ᴛ W	117	5 14	5 14ᴛ	13 47	15 46	14 40	
♂ —— 17	N 47¾ W	110	4 0	4 0ᴛ	15 07	17 10	16 0	
☿ —— 18	N 44ᴛ W	118	2 35	2 35ᴛ	16 29½	19 02	17 37	
♃ —— 19	N 26 W	108	0 58 North	0 58¼ North	17 16	19 5[illegible]	18 44	Ship S [illegible] of acct
♀ —— 20	N 20 W	85	0 21	0 21ᴛ	17 46	20 35	19 16	
♄ —— 21	N 22 W	68	1 24	1 24½	18 12	21 0	20 21	
☉ —— 22	N 19 W	95	2 54	2 54ᴛ	18 43	21 31	21 17	
☽ —— 23	N 22 W	76ᴛ	4 05	4 05	19 12	22 0	21 55	
♂ —— 24	N 27 W	36	4 36	4 36¼	19 28	22 17	21 59	Log 48 f to 29
☿ —— 25	North	50	5 27	5 27ᴛ	19 28	22 17	21 50	
♃ —— 26	N 50 W	45	5 56	5 56	20 03	22 52	21 55	Ship N of account
♀ —— 27	N 84 W	30	5 59	5 59¼	20 33	24 34	21 59	Swell from N E
♄ —— 28	N 45 W	31	6 21	6 21¼	20 54	24 55	22 14	Ship W of acct
☉ —— 29	N 51 W	26	6 38	6 37¼	21 15	25 18	22 35	Ship S W of acc
☽ —— 30	N 80ᴛ E	18	6 41	Cloudy	20 57	25 0	22 47	
♂ —— 31	S 75ᴛ W	4	6 37	6 36¼	21 17	25 20	21 24	
☿ June 1	N 35 E	11	6 48	6 47¾	21 07	24 57	21 18	
♃ —— 2	N 61ᴛ W	39	7 07	7 07ᴛ	21 44	25 37½	21 19	
♀ —— 3	N 85 W	38	7 11	7 11	22 22	25 50	22 07	
♄ —— 4	N 58¾ W	54	7 39	7 39ᴛ	23 08	26 45	22 54	
☉ —— 5	N 55 W	34 7	7 59	7 59ᴛ	23 38	27 15	23 37	
☽ —— 6	N 69 W	41	8 14	8 14	24 17	27 54	24 0	
♂ —— 7	N 43½ W	84	9 15	9 14¾	25 15	28 51	25 08	
☿ —— 8	N 44 W	103	10 29	10 28¼	26 30	30 06	26 28	
♃ —— 9	N 39ᴛ W	106	11 51	11 51½	27 36	31 12	27 38	Ship N W of acct
♀ —— 10	N 42ᴛ W	117	13 18	13 18ᴛ	28 56	32 31	28 59	Ditto
♄ —— 11	N 43 W	115	14 42	14 42	30 16	33 51	30 11	Log 18 feet to 29
☉ —— 12	N 25½ W	112	16 23	16 23½	31 05	34 44	31 28	
☽ —— 13	N 25 W	89	17 44	17 44½	31 44	35 37	32 21	Log 48 f to 28¾
♂ —— 14	N 15 W	92	19 13	19 13½	32 09	36 16	32 29½	
☿ —— 15	N 12ᴛ W	98	20 49	20 49ᴛ	32 30	36 38	33 11	
♃ —— 16	N 21½ W	100	22 22	22 21¾	33 10	37 29	33 56	
♀ —— 17	N 24ᴛ W	91	23 45	23 45ᴛ	33 50½	38 23	34 47	
♄ —— 18	N 12 W	86	25 09	15 09½	34 10	39 09	35 09	Sea weed

1774.	Courſe.	Diſt.	Latitude North by Account.	Latitude North by Obſervat.	Longitude Weſt by Account.	Longitude Weſt by Obſervat.	Longitude Weſt by No. 1.	Remarks.
	°	Miles.	° ′	° ′	° ′	° ′	° ′	
☉ June 19.	N. 7¾ W.	85	26 33	26 33¾	34 21	39 11	35 20	Ship N. E. of Acc.
☽ —— 20.	N. 7 E.	87	28 0	28 0$\frac{1}{10}$	34 11	38 58	35 06.	Sea weed.
♂ —— 21.	N. 6 E.	78	29 17	29 17¼	34 02	39 24	35 37	Ship N. E. of Acc.
☿ —— 22.	N. 8 W.	99	30 55	30 55	34 18	39 36	35 24	
♃ —— 23.	N. 13¼ W.	107	32 39	32 39⅖	34 46	40 04	35 38	Ship N. of Account.
♀ —— 24.	N. 12¼ W.	106	24 23	24 23½	35 10	40 29	36 12	Ship N. E. of Acc.
♄ —— 25.	North.	93	35 56	35 56¼	35 10	40 29	36 02½	Log 50 feet to 29″.
☉ —— 26.	N. 12¼ E.	78	37 12	37 11¼	34 52	40 21	35 54	Log 48 feet to 29″.
☽ —— 27.	N. 50⅕ E.	54	37 45	37 45⅗	34 03	39 32	35 06	Ship S. W. of Acc.
♂ —— 28.	N. 70 E.	24	37 53	37 53⅕	33 38	40 10	34 18	Ship S. E. of Acc.
☿ —— 29.	N. 36¼ E.	58	38 40	38 40¼	32 54	39 40	33 36	Ship N. E. of Acc.
♃ —— 30.	N. 50½ E.	52	39 13	39 13	32 02	39 0	32 30	Ship S. W. of Acc.
♀ July 1.	N. 58¼ E.	100	40 06	40 06¼	30 11	37 24	30 40	Ship ditto.
♄ —— 2.	N. 53¼ E.	75	40 50	40 51	28 42	35 55	29 10	
☉ —— 3.	N. 40¾ E.	51	41 32	41 32¼	27 53	35 02	27 42	
☽ —— 4.	N. 58 E.	134	42 44	42 44	25 19	32 32¾	25 06½	
♂ —— 5.	N. 53½ E.	135	44 01	44 01	22 43	29 56¾	22 39	Log 48 feet to 29″.
☿ —— 6.	N. 47¼ E.	153	45 45	45 45	20 04	27 18	19 50	A W. S. W. ſwell.
♃ —— 7.	N. 58¼ E.	161	47 10	47 10	16 44	23 58	16 27	Ditto.
♀ —— 8.	N. 67¼ E.	141	48 05	48 05$\frac{1}{10}$	13 27	20 41	13 24	Ditto.
♄ —— 9	N. 61¼ W.	144	49 09	49 09	10 05	17 19	10 07¾	
☉ —— 10.	N. 84¼ E.	134	49 22	49 21¼	6 41	13 55	6 41	
☽ —— 11.	N. 86½ E.	94	49 27	49 27½	4 17	11 31	4 07	Had ſoundings 80 fathom.
♂ —— 12.	N. 86¾ E.	137	49 35	49 35½	0 47.7 Eaſt.	8 01	0 05 Eaſt.	Log 48 feet to 29″.
♀ —— 13.	N. 79 E.	164	50 06	50 06½	1 53	5 20	2 50	Ram Head N. W. about 6 leagues.

*** In the preceding Journal, the Courſe and Diſtance; put down in the ſecond and third columns, are thoſe made good for the whole day; after variation of the compaſs, lee way, heave of the ſea, currents, &c. are allowed for, in the judgment of the navigator. The fourth and ſixth columns contain the Latitude and Longitude of the Ship deduced from that courſe and diſtance on the noon of the day mentioned in the firſt column; being the noon of the civil day, or that where the nautical day ends, and the aſtronomical one begins. The fourth column contains the Latitude obſerved at the ſame noon, and the ſeventh contains the Longitude of the Ship as carried on from the laſt lunar obſervation by means of the Log, or dead reckoning, as it is uſually called. It would, perhaps, in general, have been better to have carried it on by the Watch (No. 1.) but it may yet be done, by any perſon who wiſhes to have the Longitude of a particular place more correct, or corroborated by a greater number of obſervations, as the apparent times of moſt of the lunar obſervations were deduced from altitudes taken for the Watch. And it may here be obſerved, that the Longitude of any place, obtained by reducing a number of obſervations to that place by means of the Watch, will gene-

rally be had pretty true, notwithſtanding that the rate which the Watch was then going it may differ ſomething from that made uſe of; nay even if the rate of the Watch's going alter in that time, provided that all the obſervations made in an equal extent of time before and after making that land be uſed, and reduced ſeparately thereto and the mean of the two Longitudes thus obtained be made uſe of; as it may reaſonably be preſumed, that although the Watch's motion be not quite uniform, the acceleration or retardation of that motion will be nearly ſo, and of courſe cauſe no material error in a fortnight, during which interval ſeveral obſervations were generally got, at leaſt when they were near any lands, or where the exact ſituation of the Ship was of any conſequence The two laſt columns contain the Longitude of the Ship as deduced from the two Watches, No 1 and 2 ſo long as No 2 went with any tolerable degree of regularity afterwards, the laſt column is diſcontinued

METEOROLOGICAL OBSERVATIONS,

MADE

On Board His MAJESTY's Sloop ADVENTURE,

In her late Voyage on DISCOVERIES towards the SOUTH.

By Mr. WILLIAM BAYLEY.

1772.	Morn. Thermometer.	Noon. Latitude North. ° ′	Noon. Longitude West of Greenwich. ° ′	Noon. Barometer.	Noon. Thermom.	Even. Thermometer.	Winds.	Weather, &c.
♀ July 17.	67	46 26	7 41½	29,9	68	66	N. W.	Brisk wind and clear weather.
♄ —— 18.	68	46 46	8 2	29,87	69	65	S. W. by W.	Ditto, squally.
☉ —— 19.	65	45 20	8 46	29,9	64	65	N. W.	Moderate wind, and cloudy.
☽ —— 20.	65¼	43 56	8 55	30,0	67	64¼	W. N. W.	Brisk wind, with rain.
♂ —— 21.	63	43 29¼	9 10	29,9	67	65	{ West. E. S. E. }	Hazy weather.
☿ —— 22.	65	43 37½	9 32	30,0	66	65	N. W.	Moderate wind, and cloudy.
♃ —— 23.	67	42 16	11 28	30,08	68	66	North.	Brisk wind, and fine weather.
♀ —— 24.	66	40 3¼	11 55	30,03	67	67	N. E.	Ditto.
♄ —— 25.	68	37 40½	13 33	30,15	70	68	Ditto.	Ditto, cloudy.
☉ —— 26.	70	35 31⅔	14 54	30,05	72	69	Ditto.	Moderate wind, ditto.
☽ —— 27.	69½	33 43	15 38	29,9	72½	71	Ditto.	Ditto.
♂ —— 28.	72	32 48	16 55	30,01	74½	73	North.	Ditto, fine weather.
☿ —— 29.	72	At Madeira.		29,88	75	73		Brisk wind, and squally.
♃ —— 30.	73			30,1	76	74	Variable.	Gentle breezes, with rain.
♀ —— 31.	74	32 33¼	17 5	30,26	75¼	74		Ditto.
♄ Aug. 1.	73			29,92	76	75		Ditto.
☉ —— 2	71	32 0½	16 29	29,69	73	72¼	East.	Brisk wind, and squally weather.
☽ —— 3.	72	29 43¼	16 52	29,8	73	72¼	N. E.	Ditto, and fine weather.
♂ —— 4.	74	28 40½	18 3	29,77	73	73	N. E. by E.	Ditto, and cloudy.
☿ —— 5.	73	27 53⅙	18 26	29,87	73	72	{ N. E. S. W. }	Moderate wind, and ditto.
♃ —— 6.	73	26 6¼	19 2	30,0	73	72	E. by N.	Ditto.
♀ —— 7.	76	24 9	19 27	30,05	75	73	Ditto.	Ditto.
♄ —— 8.	74	22 10¼	19 56	29,95	76	73	E. by S.	Brisk wind, ditto.
☉ —— 9.	74	20 8¼	20 50¼	29,6	75¼	74¼	N. N. E.	Moderate wind, and fine weath.
☽ —— 10.	74	18 10	22 11 30	30,0	77	77	Ditto.	Brisk wind, and cloudy.
♂ —— 11.	78½	16 12	22 50 30	29,9	83	78	Ditto.	Ditto.
☿ —— 12.	77	15 07	23 25	29,85	79	78	Ditto.	Moderate wind, ditto.
♃ —— 13.	78	14 54	23 29	29,9	78¼	79	Ditto.	Brisk wind, with rain.
♀ —— 14.	79	14 54	23 29	30,0	81¼	78¼	Ditto.	Cloudy, with drizzling rain.
♄ —— 15.	79½	13 48	22 48	30,0	81	79	Ditto.	Ditto.
☉ —— 16.	78¼	12 22	22 30	29,9	80	78	East.	Little wind, and cloudy.
☽ —— 17.	78¼	11 50	21 57	29,95	81	80		Ditto, and drizzling rain.
♂ —— 18.	77	11 25⅔	21 21½	29,95	81	77	S. W.	Ditto, cloudy.
☿ —— 19.	79	10 47	20 52	30,0	77	77¼	S. W. by W.	Ditto, heavy rain.
♃ —— 20.	76	9 34	20 41	29,95	78¼	77¼	N. W. by N.	Ditto.
♀ —— 21.	79	8 41½	20 6	29,9	78¼	77¼	{ East. S. W. }	Squally, with rain.
♄ —— 22.	79	7 55	19 16	29,9	79	79	Ditto.	Brisk wind, and cloudy.
☉ —— 23.	80¼	6 53¼	18 24	30,05	80	78	Ditto.	Ditto.
☽ —— 24.	79	6 24⅘	17 18	29,9	79	78	S. by W.	Moderate wind, and cloudy.
♂ —— 25.	78¼	5 53¼	16 32	29,95	79¼	79	S. W. by S.	Ditto, and fine weather.
☿ —— 26.	78¼	5 10	15 37	29,95	78¼	78	S. W.	Ditto, with rain.
♃ —— 27.	78	4 13¼	14 48	29,9	78¼	78	S. W. by S.	Brisk wind, and cloudy.

1772	Morn Thermometer	Noon Latitude North	Noon Longitude W of Greenwich	Noon Barometer	Noon Thermom	Even Thermometer	Winds.	Weather
♀ Aug 28	78	3 40½	13 41	29,85	77	78	S S W	Brisk wind, and cloudy
♄ —— 29	77	3 15¼	12 44½	29 8	78	76	Ditto	Moderate, and fair weather
☉ —— 30	78½	2 40¼	11 38	29,75	78	77	Ditto	Ditto
☽ —— 31	78	2 40	10 36½	29,95	79	77	S by W	Ditto, and cloudy
♂ Sept 1	78½	1 59	5 46½	29,95	78½	78	South	Little wind, and fine weather
☿ —— 2	77	1 24	6 34½	29,95	78	78	Ditto	Ditto
♃ —— 3	77	1 01	8 32	29,8	77½	77½	S by W	Ditto, and cloudy
♀ —— 4	74	0 51	9 31	29,95	77	76	South	Brisk wind, and fine weather
♄ —— 5	76	0 56	9 42	29,95	77½	76½	S W	Little wind ditto
☉ —— 6	77	0 36	9 21	29,8	77½	76	Ditto.	Moderate wind, and cloudy
☽ —— 7	76	0 23	8 44	29,9	76	75	S by W	Ditto
		South						
♂ —— 8	76	0 18	9 46	30,0	76½	74½	S by E	Ditto
☿ —— 9	75	0 55	10 39	29,8	76½	75	Ditto	Ditto, and fine weather
♃ —— 10	74	1 57½	11 16	30 0	77	73	S S E	Ditto, and cloudy
♀ —— 11	74	2 59½	11 54	30,0	76	73	Ditto	Ditto
♄ —— 12	73	4 10	12 46	30,0	75	72½	S E.	Ditto
☉ —— 13	73	5 5	13 34	30,05	75	73	S by E	Ditto
☽ —— 14	73	6 29	14 27	29,9	75	73	S S E.	Ditto, and fine weather
♂ —— 15	72	8 10	15 06	29,8	76	72½	S E	Ditto
☿ —— 16	73	9 36	15 41½	29 75	74½	73	Ditto	Squally weather
♃ —— 17	73	11 0	16 28	30,05	73½	73	Ditto	
♀ —— 18	72½	12 26	17 38½	30,1	74	73	S E by E	
♄ —— 19	72	14 05	18 36	30,0	73	72	S E	
☉ —— 20	73	15 36	19 14	29 95	73	72	S E by E	Brisk wind, and squally
☽ —— 21	73	17 09	19 56	30,05	73	72	Ditto	
♂ —— 22	73	18 39½	20 36	30,1	73½	72	Ditto	
☿ —— 23	72	20 6¼	21 32	30,1	72	72	E S E	
♃ —— 24	72	21 30	2 01	30,0	72½	71½	S E by E	
♀ —— 5	71	22 50	22 55	29,9	72	70½	S E	
♄ —— 26	71	24 13	22 16	30,0	72	71	East	Brisk wind, and fine weather
☉ —— 27	70½	24 40	22 45	29,9	72½	70½	E S E	

A little after noon Mr Bayley let down a Thermometer to the depth of 80 fathoms below the surface of the sea, where it remained 16½, and he was 6 drawing it up On examination he found it stand at 68° The same Thermometer stood at 70° in the water at the surface and at 72°½ in the open air

1772	Morn Thermometer	Noon Latitude North	Noon Longitude W of Greenwich	Noon Barometer	Noon Thermom	Even Thermometer	Winds.	Weather
☽ —— 28	71	25 29	22 23	30,2	72	71	E N E	Brisk wind, and cloudy
♂ —— 29	71	26 13	21 50	29,95	71	67	N E.	Squally, with rain
☿ —— 30	69	26 58	19 48	29,85	70½	71	North	Moderate wind, and fine weath
♃ Oct 1	67	27 25	18 13	29,95	69½	69½	N E / W S W	Squally, with rain
♀ —— 2	67	27 33	17 22	30,0	68½	65	S W / S S E	Little wind, and fine weather
♄ —— 3	66	28 04	16 02	30 15	66	64	S W by S	

The water in Dr Lind's Wind gage, (see Phil Transactions, vol lxv p 313) sunk [illegible]th of an inch in the squalls

1772.			Morn. Thermometer.	Noon. Latitude South. °	′	Longitude West of Greenwich. °	′	Barometer.	Thermom.	Even. Thermometer.	Winds.	Weather, &c.
☉	Oct.	4.	64	28	59	13	46	30,1	64	57	S. W.	Squally, with drizzling rain.
☽	——	5.	56	29	0	12	21	30,05	60½	56	South.	Brisk wind and cloudy.
♂	——	6.	59	29	42½	12	28	29,95	61	58	S. E.	Ditto, and fine weather.
☿	——	7.	59	31	18	12	28	30,1	59	57	E. S. E.	Squally weather.
♃	——	8.	58	32	42½	12	11	30,0	59	58½	East.	
♀	——	9.	59	33	52½	10	56	30,15	59½	57	E. N. E.	Moderate wind, and cloudy.
♄	——	10.	59	34	28	9	13	30,35	65	58	N. E.	Squally weather.
☉	——	11.	57	34	41	6	50	30,3	59	59	N. N. E.	
☽	——	12.	57	34	49	6	04	30,1	65	58	North.	Little wind, and fine weather.
♂	——	13.	58	35	09	6	0	30,15	65	56	N. E.	
☿	——	14.	57	35	29	4	04	30,25	60	58	N. E.	Squally, with rain.
♃	——	15.	58	35	33	1	51 East.	30,0	63½	57	N. E. by N.	Brisk wind, and cloudy.
♀	——	16.	59	35	14	1	07	29,95	62½	57	North.	
♄	——	17.	56	34	57	4	49	30,05	58	54	West.	Brisk wind, and cloudy.
☉	——	18.	53	34	33	7	35	30,1	57	53½	S. W.	
☽	——	19	54	34	21	8	35	30,0	56	53	S. S. E.	Brisk wind, and drizzling rain.
♂	——	20.	56	34	45	8	07½	30,2	60	54	East.	Little wind, and fine weather.
☿	——	21.	57	35	31½	8	37	30,2	59	55	East.	
♃	——	22.	56	36	48	9	06	29,85	59	57½	East.	Brisk wind, and cloudy.
♀	——	23.	57	37	09	9	45	29,95	59	57	N. E. by E.	
♄	——	24.	54	36	39	11	43½	30,1	57	57½	West.	Brisk wind, and cloudy.
☉	——	25.	54½	35	26	14	08	30,25	56½	57	S. S. E.	
☽	——	26.	57	34	43	15	37	30,05	58½	56½	S. S. E.	Moderate wind, and cloudy.
♂	——	27.	57	33	47	16	50	30,0	61	60	S. S. E.	Ditto, fair weather.
☿	——	28.	60	33	38	17	49	30,0	61½	59½	S. W.	Ditto.
♃	——	29.	60	33	51	19	9	29,85	60½	58	N. W.	Ditto.
♀	——	30.	56	In Table Bay, at the Cape of Good Hope, Lat. 33° 55′½ S. Long. 18° 23′½ E.								
☉	Nov.	22.		33	55	18	23		60		N. by W.	Brisk wind, and fine weather.
☽	——	23.		34	34	17	42		65		N. W.	Strong gales, and flying clouds.
♂	——	24.		35	20	17	51		63½		S. E.	Ditto.
☿	——	25.		37	14	16	53	30,0	63	62½	S. E. ½ E.	Ditto.
♃	——	26.	62	39	0	15	48	29,9	69	60	N. E.	Brisk wind, ditto.
♀	——	27.	51	40	01	16	40	29,95	52	53	W. by S.	Strong wind, ditto.
♄	——	28.	53	40	55	16	36	29,8	59	52	N. N. W.	More moderate, and cloudy.
☉	——	29.	52	42	08	16	35	30,0	52½	53	N. W.	Strong wind, with rain.
☽	——	30.	52	42	26	17	43	29,8	55	52	Ditto.	
			The water in Dr. Lind's wind-gage sunk 6-10ths of an inch in the squalls, and 0,35 in the intervals between them.									
♂	Dec.	1.	51½	43	14	17	53	29,9	51	46	W. N. W.	Strong wind, with rain.
☿	——	2.	47			18	36	29,5	49	47	Ditto.	
♃	——	3.	47	44	27	18	32	29,4	48	46	N. W.	Strong wind, and fine weather.
♀	——	4.	44	45	23½	18	02	29,5	45	42	W. N. W.	Gentle gales, and fine weather.
♄	——	5.	44	47	09	17	31	29,75	46	40	N. by W.	Ditto, and cloudy.

1772		Morn Thermometer	Noon Latitude South ° ′	Noon Longitude East of Greenwich ° ′	Noon Barometer	Noon Thermometer	Even Thermometer	Wind	Weather &c
☉	Dec 6	36	48 23	17 34½	29,95	36	35	W S W	Gentle gales, and fine weather
☽	—— 7	38	49 49	17 04	29,7	42	38	North	Strong gales, with rain
♂	—— 8	38		17 54	29,8	39½	36	N W by N	Ditto, cloudy
☿	—— 9	33½	49 46	18 12	29 35	34	35	N W by W	Briſk wind, with ſnow
♃	—— 10	31½	51 04	18 40	29,55	35	34½	N by W	Little wind, with ſnow
♀	—— 11	31½	51 50	18 40	29,35	32½	33	N N W	Ditto, cloudy
♄	—— 12	32½	Cloudy	19 0	29,3	34	32	W by N	Ditto and much ſnow
☉	—— 13	30½	Cloudy	20 12	28,85	31	30	W N W	
☽	—— 14	30½	54 53	22 04	28,55	32	30	N by E	Light airs, and fair weather
♂	—— 15	28	55 02	22 30	28,55	31½	30½	Ditto	Light airs, and foggy, with ſnow
☿	—— 16	31	55 0	22 22	28,55	31½	31½	W N W	
♃	—— 17	31	55 21	23 30	28,65	31½	30½	N W	Light wind, with ſnow
♀	—— 18	31	54 59	24 40	28,7	31½	30½	N N W	
♄	—— 19	30	54 34	25 10	28,55	31½	31½	N W and N N E	Strong wind, with ſnow
☉	—— 20	32	54 11	27 27	28,55	34	31½	N N W	
☽	—— 21	32	54 07	28 27	28,6	34	31½	W N W	
♂	—— 22	32	54 52	29 01	28,6	31½	32	Ditto	Little wind, and flying clouds
☿	—— 23	32	55 24	30 12	29,15	31½	33	N W by W	
♃	—— 24	32	56 29	30 02	29,35	34	32	E N E	
♀	—— 25	31½	57 54	29 06	29,1	31½	31	South	Briſk wind and cloudy
♄	—— 26	31	58 30	26 22	29,35	32	31	Ditto	Little wind and cloudy
☉	—— 27	32	58 21	24 06	29,5	35	32	N W by W	Little wind and fair weather

Let down a Thermometer 160 fathoms below the ſurface of the ſea it lay at that depth 25 minutes, and was ſeven minutes drawing up, when it was found to ſtand at 33 the ſame thermometer ſtood at 32 in the water at the ſurface, and at 31, in the open air

☽	—— 28	30½	58 33	22 11	29,55	31½	31½	E by N	Briſk wind, with ſnow
♂	—— 29	31½	59 11	19 57	29,1	33	31	Eaſt	Little wind, with ſnow
☿	—— 30	32	59 22	18 25	28,9	34	32	E S E	Ditto, with rain
♃	—— 31	30½	59 55	15 45	28,95	33	32	S E	Strong wind, and cloudy
	1773								
♀	Jan 1	32	60 0	13 0	28,8	31	32	S S W	Briſk wind, with ſnow
♄	—— 2	31	59 21	10 06	29,45	32	31½	W by N	Ditto, and fair weather
☉	—— 3	31	59 23	11 24	29,3	32	31	E N E	Strong wind, with ſnow
☽	—— 4	32	59 01	14 14	29,4	33	33	N N W	
♂	—— 5	33	59 37	19 04	29,35	33	33	Ditto	
☿	—— 6	33	59 59	23 08	29,15	33	33½	N W by W	Moderate wind and cloudy
♃	—— 7	32½	60 36	27 1	29,05	34	32	W N W	Ditto, and thick ſnow
♀	—— 8	32½	61 20	31 20	28,95	34	33	Ditto	Ditto, and rain
♄	—— 9	32½	61 36	33 26	28,95	35	33	Ditto	Moderate wind, and fair weather
☉	—— 10	32½	61 57	34 30	29,2	34	33	N by W	
☽	—— 11	32½	63 19	35 46	29,2	34½	32½	North	
♂	—— 12	33	64 14	37 0	29,35	35	32	S S E	
☿	—— 13	34	64 14	39 43	29,4	40	33	S S W	
♃	—— 14	32	63 57	40 03	29,25	35½	33	S S E	

1773.		Morn. Thermometer.	Noon. Latitude South. ° ′	Noon. Longitude East of Greenwich. ° ′	Barometer.	Thermom.	Even. Thermometer.	Winds.	Weather, &c.
♀	Jan. 15.	34	63 35	40 03	29,05	37	33	S. E.	
♄	—— 16.	34	64 32	39 53	28,9	35	34	Ditto.	Brisk wind, with snow and sleet.
☉	—— 17.	32	66 34	40 02	28,95	32½	33	S. E. by E.	
☽	—— 18.	33	65 58	40 02	28,9	34	33	S. W. by S.	
♂	—— 19.	33	64 29½	40 58½	29,1	35	33	S. E. by E.	Moderate wind, and cloudy.
☿	—— 20.	34	63 59	40 41	28,8	33	32½	Ditto.	Strong wind, with snow.
♃	—— 21.	33½	62 45	43 14	28,7	33½	34½	S. S. E.	Little wind, ditto.
♀	—— 22.	34	61 33	45 29	29,3	34½	35	South.	Ditto, and cloudy.
♄	—— 23.	34	60 02	48 36	29,15	35	34½	S. by E.	Strong wind, with snow and sleet.
☉	—— 24.	34	58 24	51 47	29,3	35	33	N. W.	
☽	—— 25.	34	58 08	52 0	29,15	35	34	E. N. E.	Strong wind, and foggy.
♂	—— 26.	34	57 22	53 57	29,3	34½	34½		Calm, with thick snow.
☿	—— 27.	33½	56 30	52 03	29,1	35	33	S. W. by W.	Gentle gales, and fair weather.
♃	—— 28.	33	54 32	53 09	28,1	36	33½	N. N. W.	Brisk wind, and flying clouds.
♀	—— 29.	34	52 28	54 12	29,0	37	34	N. by W.	Ditto, and cloudy.
♄	—— 30.	39	51 31	55 22	29,5	40	39	N. N. W.	Strong wind, with much rain.
☉	—— 31.	38	50 48	56 11	29,55	39	38	Ditto.	Brisk wind, with flying clouds.
☽	Feb. 1.	41	48 32	59 03	30,05	42½	47	N. by W.	
♂	—— 2.	44	48 45	59 19	30,15	44	44	N. W.	Little wind, with drizzling rain.
☿	—— 3.	44	49 15	59 19	30,15	44	43	N. N. W.	Strong wind, with heavy rain.
♃	—— 4.	43	49 04	57 39	29,5	43½	43½	N. W.	Light winds, with cloudy weather.
♀	—— 5.	40	48 0	60 14	29,5	41½	40½	N. N. E.	Brisk wind, and fair weather.
♄	—— 6.	42	48 53	60 22	29,6	45	43	N. N. W.	Ditto, with slight showers.
☉	—— 7.	43	50 14	63 06	29,8	44	42½	N. W.	Light winds, and fair weather.
☽	—— 8.	44	50 14	65 11	29,5	43	43	N. E.	Ditto, thick fog and rain.
♂	—— 9	43	50 17	65 27	28,7	43	41	N. N. E	Strong winds, and much rain.
☿	—— 10.	39	49 54	66 0	29,4	40	40	N. W. by W.	Ditto, and fair weather.
♃	—— 11.	40	50 18	66 11	29,9	42	40	N. N. W.	Ditto, and foggy.
♀	—— 12.	38	50 41	69 06	29,5	40	37	Ditto.	
♄	—— 13.	37	51 05	72 11	29,6	39	39	N. W.	Moderate, and cloudy.
☉	—— 14.	38	51 39½	75 30	29,5	39½	38	Ditto.	
☽	—— 15.	37	52 13	79 18	29,6	38	39	S. W. by W.	
♂	—— 16.	36	52 32	81 22	29,6	37½	37	W. N. W.	
☿	—— 17.	36	52 54	85 10	29,5	37	37	Ditto.	Strong wind, with rain.
♃	—— 18.	37	52 52	88 52	29,55	40	37	W. by N.	
♀	—— 19	36	52 38	92 0	28,85	38	38	S. W.	
♄	—— 20.	36	52 16	96 56	29,05	36	37	W. N. W.	Brisk wind, with snow.
☉	—— 21.	40	52 15	99 54	29,6	41	38	S. W.	Little wind, and fair weather.
☽	—— 22.	39	52 29	102 49	29,0	38	40	E. N. E.	Brisk wind, and rainy weather.
♂	—— 23	39	52 17	104 16	28,5	41½	39	N. W. by N.	Ditto, and squally.
☿	—— 24.	40	52 07	106 49	28,5	43	41	N. W.	Gentle breezes, and fair weather.
♃	—— 25.	41	51 41	110 30	29,45	45	40	W. N. W.	Brisk wind, and flying clouds.

This evening we saw the Southern lights for the first time: they were so bright that large print might have been read by their light.

1773	Morn. Thermometer	Noon. Latitude South	Noon. Longitude East of Greenwich	Noon. Barometer	Noon. Thermom.	Even. Thermometer	Winds	Weather &c.
♀ Feb 26	43	51 18	114 02	29 95	44	44	North	Briſk wind and hazy
♄ —— 27	45	50 47	117 59	29,45	43	45	N N W	Ditto and drizzling rain
☉ —— 28	43	50 24	122 30	29,45	43½	44	W N W	Ditto, and flying cloud
☽ March 1	47	49 02	126 0	29,65	49½	46	N N W	Ditto, in ſqualls
♂ —— 2	52	47 29	129 0	29 75	52	52	N W	Ditto, with thick drizzling weather
☿ —— 3	53	46 18	130 15	29,65	53	52	N N W	
♃ —— 4	49	44 48	132 15	29,6	51	51	S W	Briſk wind, and flying clouds
♀ —— 5	52	44 3	134 40	29,75	56	52	Weſt	Ditto and fair weather
♄ —— 6	53	43 57	138 0	29 6	52	51	W S W	Briſk wind, and ſqually weather
☉ —— 7	51½	43 46	141 40	29,75	52½	55	W by N	Moderate wind, and fine weather
☽ —— 8	54½	43 41	144 06	29,9	55	52	Weſt	
♂ —— 9	55	43 46	145 37	30,0	57	54	N N W	
☿ —— 10	57	43 40	147 20	29,55	54	53	W S W	Strong wind, and drizzling rain
♃ —— 11	56	43 23	147 30	29,95	57	52	W N W	Little wind and fine weather
♀ —— 12	57	In Adventure's Bay, at Van Dieman's Land		30,0	58	5[illegible]	N by W	
♄ —— 13	55½			30,0	57	58¼	W by S	
☉ —— 14	57			29,72	57	57	S S E	
		43 23	147 30					
☽ —— 15	56	43 20	147 40	29 5	56	51	Ditto	Briſk wind with rain
♂ —— 16	52	43 08	148 26	29,65	55	53	W by S	Briſk wind and cloudy
☿ —— 17	53	41 44	148 11¼	29,8	54½	52	W by N	Briſk wind and drizzling rain
♃ —— 18	53	40 22	148 08	29,95	54½	52	S S W	
♀ —— 19	57	39 21	148 33	30,05	59	54	S S E	Moderate wind and fine weather
♄ —— 20	60	39 22	150 13	30,01	61	56	South	Moderate wind, and cloudy
☉ —— 21	58	39 16¼	151 43	30,15	59½	57	S by E	
☽ —— 22	57	39 28	152 58	30 05	53	57	South	Strong wind with rain
♂ —— 23	55	39 08	154 25	30,05	54	54	Ditto	
☿ —— 24	57	38 58	155 27	30,05	58	53	Ditto	Briſk wind and cloudy
♃ —— 25	57	39 21	157 37	30,2	60	60	Ditto	Briſk wind, and ſqually
♀ —— 26	61	40 06	159 44	30,25	61¼	59	Ditto	Briſk wind and fine weather
♄ —— 27	61½	40 14½	161 06	30,[illegible]	61	60	S ¼ W	
☉ —— 28	62	40 16	161 36	30,4	64	61	S W	

Let down a thermometer to the depth of 140 fathoms and on drawing it up found it ſtand at 56¼; it ſtood at 64 in the open air, and at 59°¼ in the water at the ſurface.

1773	Morn. Thermometer	Noon. Latitude South	Noon. Longitude East of Greenwich	Noon. Barometer	Noon. Thermom.	Even. Thermometer	Winds	Weather &c.
☽ —— 29	61	40 42	163 07	30,5	64	62	North	Briſk wind and fine weather
♂ —— 30	62	41 14	164 49	30,45	64	64	N by E	
☿ —— 31	64	41 33	166 47	30,35	64¼	62	North	Ditto
♃ April 1	63	41 31	168 35	30,05	63¼	62	N N W	Briſk wind, and much rain
♀ —— 2	62	41 17	170 45	29,7	62	61	N by W	
♄ —— 3	62	40 40	171 45	29,6	63	60	N N W	Moderate wind, and fine weather
☉ —— 4	63	40 16		29 65	66	62	Eaſt	
☽ —— 5	63	40 53		29 8	61¼	61	S W by S	
♂ —— 6	63	41 04¼	173 56	30 15	61¼	57	N W	

1773.			Morn. Thermometer.	Noon. Latitude South. ° ′	Noon. Longitude East of Greenwich. ° ′	Noon. Barometer.	Noon. Thermom.	Even. Thermometer.	Winds.	Weather, &c.
☿	April	7.	54	41 05 47	173 56	30,4	58	56	South.	
♃	——	8.	52	In Q. Charlotte's Sound.		30,1	58	55		Moderate wind, and fair weather.
♀	——	9.	54			29,8	61	55		
♄	——	10.	54			29,85	56	66		
☉	——	11.	52½			30,1	56½	63	South.	Brisk wind, and flying clouds.
☽	——	12.	54			30,1	62	56	N. N. W.	Ditto, and fair weather.
♂	——	13.	57			30,14	58½	54	N. by W.	Moderate wind, and fair weather.
☿	——	14.	53			30,0	59	56	Ditto.	
♃	——	15.	52			29,92	57	54	S. by W.	Strong wind, and cloudy.
♀	——	16.	56			30,03	53	54	S. S. W.	Little wind, and fair weather.
♄	——	17.							Ditto.	Strong wind, and ditto.
☉	——	18.							Ditto.	Ditto, and rain.
☽	——	19.							Ditto.	Ditto, and cloudy.
♂	——	20.							Ditto.	Ditto, and fair weather.
☿	——	21.	53			29,77	59	59	S. W. by S.	Moderate wind, and ditto.
♃	——	22.	53			29,55	53½	52½	W. S. W.	Brisk wind, with rain.
♂	——	23.	51			29,64	51	51	Ditto.	
♄	——	24.	49½			29,82	54	50	Ditto.	
☉	——	25.	57½			29,9	58	57	West.	Moderate wind, and fine weather.
☽	——	26.	58			29,92	58½	56	N. E.	
♂	——	27.	44			30,04	57½	54	S. S. W.	
☿	——	28.	51			30,0	56	54½	Ditto.	
♃	——	29.	49½			30,14	54	50	Ditto.	
♀	——	30.	50½			30,24	54	51½	Ditto.	Moderate wind, and fair weather.
♄	May	1.	56			30,36	59	54½	N. by E.	
☉	——	2.	49			30,33	54½	55	S. S. W.	
☽	——	3.	47			30,27	57	45½	N. N. E.	Moderate wind, with rain at times.
♂	——	4.	53½			29,96	59	49	W. by N.	Ditto, and fair weather.
☿	——	5.	57			29,7	57	53	Ditto.	Strong wind, with rain.
♃	——	6.	48			30,27	54	55	S. W. by S.	Scarce any wind, and very fine.
♀	——	7.	51½			30,31	59	56	N. W.	
♄	——	8.	52½			30,06	57½	56½	W. by N.	
☉	——	9.	57½			30,03	58½	54	S. S. W.	Brisk wind, and fine weather.
☽	——	10.	56			29,81	58½	56½	S. W. by W.	
♂	——	11.	47			30,01	48	47	S. S. W.	
☿	——	12.	54½			30,28	52½	49	W. N. W.	Gentle breezes, and very fine weather.
♃	——	13.	45			30,15	52	49	S. S. W.	
♀	——	14.	48			30,32	51½	52	N. E.	
♄	——	15.	47			30,24	58	57	N. by W.	Strong wind, and flying clouds.
☉	——	16.	57			29,75	58½	48	Ditto.	Ditto, with rain.
☽	——	17.	51			29,63	46½	43	W. S. W.	Ditto, with heavy showers.
♂	——	18.	52			29,5	58	47½	S. S. W.	Gentle breezes, and fine weather.
☿	——	19.	40			29,7	51½	48	Ditto.	
♃	——	20.	50			30,02	56	45	East.	

1773	Morn. Thermometer	Noon. Latitude South ° '	Noon. Longitude East of Greenwich ° '	Noon. Barometer	Noon. Thermom.	Even. Thermometer	Wind	Weather, &c
♀ May 21	54			30,02	57	44	East	Gentle breezes, and fine weather
♄ —— 22	49			29,86	49	47	N N E	
☉ —— 23	48			30,25	49	50	S W by W	
☽ —— 24	49			30,2	54	49	S S W	
♂ —— 25	49			30,1	57½	48	N by E.	Brisk wind, and thick, with rain
☿ —— 26	49½			29,6	57½	47	E by N	Strong wind, and ditto
♃ —— 27	47			29,65	57	49	N W	Brisk wind, with rain
♀ —— 28	49			29,66	58	48	N E	
♄ —— 29	48			29,75	58	49	Ditto	Moderate wind, with flying clouds
☉ —— 30	59½			29,81	59½	52	West	
☽ —— 31	57			30,1	49½	51	S S W	Ditto, with drizzling rain
♂ June 1	56			30,3	56	50	Ditto	
☿ —— 2	52			30,19	58	56	Ditto	Ditto, and fair weather
♃ —— 3	53			30,3	58	51	S W	
♀ —— 4	54			30,41	59½	49	S S W	Brisk wind, and cloudy
♄ —— 5	57			30,41	49½	47	Ditto	Strong wind, with rain
☉ —— 6	52			30,3	56	47	Ditto	
☽ —— 7	49½	41 3½	174 04	30,05	56	48	Ditto	Brisk wind, and fair weather
♂ —— 8	49½	41 53½	174 48	29,7	51½	47½	N W	Gentle gales, and ditto
☿ —— 9	55	42 50	176 48	29,55	52½	48	Ditto	Gentle gales, and flying clouds
♃ —— 10	53	43 57	179 26	29,5	57	47	N N W	
♀ —— 11	52	44 45	181 06	29,7	57	48	N by W	Brisk wind, with thick weather
♄ —— 12	51½	45 45	183 49	29,6	54	47	N N W	Little wind, and hazy
☉ —— 13	50	46 29	184 0	29,85	52	49	E S E	Brisk wind, and cloudy
☽ —— 14	49	46 43½	185 14	29,6	48½	48	W S W	Little wind, and hazy
♂ —— 15	54	46 45½	186 07	29,75	49	47	N E. by E	
☿ —— 16	48	47 23	186 32	30,0	50	49	F by S	Brisk wind, with rain
♃ —— 17	48	46 21	186 32	29,8	49	47½	E S E	Brisk wind, and hazy
♀ —— 18	49	45 50	188 44	29,95	49	47	S S E	
♄ —— 19	47½	45 12	190 46	30,1	50	47½	W S W	Brisk wind, and flying clouds
☉ —— 20	48	44 30	193 27	30,2	49	49	S E	Little wind, and cloudy
☽ —— 21	50	44 17	194 52	30,15	51½	50	W S W	
♂ —— 22	51	44 32	190 32	30,15	52	49	W by S	
☿ —— 23	49	44 37	197 32	30,0	50	48½	N W by N	
♃ —— 24	47	43 42	197 37	29,7	52½	49	East	Strong wind with rain
♀ —— 25	54	43 13	197 12	29,5	54	49	E by N	
♄ —— 26	52	43 5	196 37	29,3	55	48	N E by N	Brisk wind, and cloudy
☉ —— 27	52	42 23	196 37	29,35	53	51	S E by E	Ditto, with drizzling rain
☽ —— 28	52	42 24	197 44	29,35	53	50	West	Light airs, and foggy at times
♂ —— 29	53	42 46	199 0	29,35	53	52	N E	Ditto, and fair weather
☿ —— 30	51	43 0	200 25	29 45	52	50	South	Brisk wind, and squally
♃ July 1	49	43 06	202 19	29,65	50	50	S by E	Gentle breezes, and hazy
♀ —— 2	49	42 59	203 40	29,75	51	50	S S E	Ditto, and fair weather
♄ —— 3	48	43 13	205 03	29 8	53½	41	N N W	Brisk wind, and flying clouds

1773.			Morn. Thermometer.	Noon. Latitude South. °	′	Longitude East of Greenwich. °	′	Barometer.	Thermom.	Even. Thermometer.	Wind.	Weather, &c.
☉	July	4.	49	43	57	205	52	29,9	50½	48½	E. by S.	Brisk wind, and flying clouds.
☽	——	5.	49	43	24	208	09	29,95	47½	47		Strong wind, and squally, with rain.
♂	——	6.	52	42	05	208	43	29,75	52½	49		Brisk wind, and flying clouds.
☿	——	7.	52	41	18½	209	05	29,5	53½	49½		Little wind, and fair weather.
♃	——	8.	52	41	59	210	49	29,5	51½	48½	West.	Fresh gales, and squally.
♀	——	9.	52½	42	38	212	33	29,9	51½	52½	W. S. W.	Gentle gales, and flying clouds.
♄	——	10.	53½	43	38	215	43	30,0	51½	51½		Brisk wind, and squally.
☉	——	11.	46	43	30	217	33	30,15	47	46	S. by W.	Gentle gales, and flying clouds.
☽	——	12.	47	43	13½	219	19	30,3	51½	49	S. S. W.	
♂	——	13.	55	42	57½	220	20	30,35	52	48½	West.	Little wind, and fair weather.
☿	——	14.	49	42	50	221	32	30,05	50½	47½	N. E.	Brisk wind, and cloudy.
♃	——	15	50	42	30	221	23	29,1	52	47½	E. N. E.	Strong wind, with drizzling rain.
♀	——	16	48	41	23	223	0½	29,4	50½	47½	S. S. W.	Brisk wind, with hail and rain.
♄	——	17.	45	39	42½	225	04	29,8	44	46	S. W. by S.	
☉	——	18.	46	37	61½	225	29	30,25	50½	47	S. W.	Gentle gales, and fair weather.
☽	——	19.	53	36	30	225	39	30,2	54½	54	S. S. W.	
♂	——	20.	54	35	19	225	36	30,15	55	53	S. E.	Brisk wind, and flying clouds.
☿	——	21.	58	32	45	224	36	29,6	59	57	East.	Srong wind, with rain.
♃	——	22	62	31	03	224	36	29,75	64	63	S. S. W.	Brisk wind, with showers.
♀	——	23.	62	29	21	224	13	29,9	64	64	N. W. by N.	Moderate wind, with drizz. rain.
♄	——	24.	64	29	43	222	49	29,9	65	65	N. N. W.	Strong wind, and much rain.
☉	——	25	66	29	46	223	05	29,65	64	66	N. W.	Brisk wind, ditto.
☽	——	26.	66	28	53	225	14	30,0	68	67	N. W. by W.	Moderate wind, and fair weath.
♂	——	27.	67	27	55	225	14	30,0	69	67	W. S. W.	Little wind, and ditto.
☿	——	28.	67	27	42	224	40	30,1	69	68	N. by W.	
♃	——	29	67½	27	31	223	50	30,0	70	69	N. W.	Little wind, and fair; rain in the night.
♀	——	30	69	27	03½	224	44	30,0	71	68	N. N. W.	
♄	——	31.	69	26	19½	225	09	29,75	67	67	W. by N.	
☉	Aug.	1	68	25	11	225	57	29,8	67	66	W. N. W.	Brisk wind, with showers.
☽	——	2	67	23	14	226	11	30,05	70	68	W. by S.	Moderate W. with flying clouds.
♂	——	3	71	22	11	226	59	30,15	72	67	West.	Little wind, and fine weather.
☿	——	4	72	21	22	227	10	30,05	75	75	Ditto.	
♃	——	5	73	20	39	227	50½	30,15	77	77	N. W.	
♀	——	6	76	19	46	228	35	30,05	77	78	West.	Little wind, and cloudy.
♄	——	7.	78	18	52	227	21	30,15	71	76	E. S. E.	Brisk wind, and cloudy.
☉	——	8.	76	18	04	224	47	30,05	76	75	Ditto.	
☽	——	9.	75	17	41	222	36	30,75	75	74	E. by S.	
♂	——	10.	75½	17	23	220	33	30,25	78½	75	Ditto.	
☿	——	11.	77½	17	16½	218	29	30,1	79	76	East.	Gentle gales, and flying clouds.
♃	——	12	77	17	10	216	10	30,0	79½	77	E. by S.	
♀	——	13	78½	17	15	215	11	30,1	80	78	Ditto.	Gentle gales, and hazy.
♄	——	14	79	17	18	212	50	30,0	79½	77	Ditto.	
☉	——	15	78½	17	46	211	05	30,05	80	77	Ditto.	Little wind, and fair weather,
☽	——	16	78½	17	46			30,1	82	84	S. by E.	

	1773	Morn Thermometer	Noon Latitude South ° ′	Longitude East of Greenwich ° ′	Barometer	Thermom.	Even Thermometer	Wind	Weather &c
♂	Aug 17	81	17 39½		30,0	82	82	East	Little wind, and cloudy
☿	—— 18	84	17 44¼	210 36	30,05	82	81	Ditto	Ditto and fair weather
♃	—— 19	83	In Oaitipeha Bay,		30,1	82	81	Ditto	Brisk wind, with showers
♀	—— 20	82	on the N W		30,0	82¼	80¼	E by S.	
♄	—— 21	80½	side of the lesser		29,95	81¼	77¼	N E	
☉	—— 22	78	peninsula of Ota		29,85	81	79	N N W	Brisk, and flying clouds
☽	—— 23	77	heite		30 0	78	78	W by S	
♂	—— 24	75			30,05	75	77	S W by W	Moderate wind, with showers
☿	—— 25	74	17 24½	210 34	30,0	80½	78	E S E	
♃	—— 26	72	In Matavi Bay, Otaheite		30,1	81½		Ditto	Light winds, and fine weather
♀	—— 27		17 29	210 23				Ditto	
♄	—— 28							Ditto	
☉	—— 29							Ditto	
☽	—— 30							Ditto	
♂	—— 31							Ditto	
☿	Sept. 1							West	
♃	—— 2	76½	16 59¼	209 38½	30,0	77	75¼	S E	
♀	—— 3	75	16 45	209 0	30 0	77	76	Ditto	Gentle breezes, and fine weather
♄	—— 4	76	At anchor in Owharre Harbour,		30,1	78¼	77	E S E	
☉	—— 5	77	in Huaheine		30,0	79½	79	Ditto	
☽	—— 6	77½			30,0	78	77	Ditto	
♂	—— 7	77½	16 59¼		30,05	80	77	Ditto	
☿	—— 8	78	16 45¼	208 35	30,0	81	78	Ditto	
♃	—— 9	77½			30,0	80½	78	Ditto	
♀	—— 10	76			30,1	82½	81¼	Ditto	
♄	—— 11	77			30,0	82	82	W S W	
☉	—— 12	76	At anchor in Ohamanene Harbour,		30,0	77	80	E S E	
☽	—— 13	76½	in Ulietea		30,16	78¼	80¼	Ditto	
♂	—— 14	77			30,14	77¼	75¼	E by N	Little wind, and drizzling rain
☿	—— 15	74½			30,13	77¼	76	E by S	
♄	—— 16	75½			30,11	77¼	75	E S E	
♀	—— 17	76½	16 50½	208 11	30,05	78	78	Ditto	Brisk wind, and flying clouds
♄	—— 18	76½	17 16	207 02	29,9	78¼	77¼	E by S	
☉	—— 19	77½	17 40	205 58	29 95	78¼	78	East	Moderate wind, and fair weather
☽	—— 20	76½	18 02	204 50	30 0	80¼	77¼	E by N	
♂	—— 21	78½	18 24	204 25	29,9	80	76¼	N W	Moderate winds, and showers
☿	—— 22	78	18 40	203 31	30 0	77	76	S S E	Ditto and flying clouds
♃	—— 23	72½	19 06	201 58	30 0	74	72	S E by S	Brisk W and cloudy with rain
♀	—— 24	73½	19 28½	200 20	30,05	74¼	72¼	E S E	Little wind, and cloudy
♄	—— 25	74½	19 52	197 40	30,05	74¼	73	Ditto	Brisk wind, and cloudy
☉	—— 26	73	20 25	95 26	30 95	73¼	71	Ditto	Ditto, with drizzling rain
☽	—— 27	70½	20 39	193 09	30,95	72¼	70½	Ditto.	Ditto, with flying clouds
♂	—— 28	72	21 04	190 03	30,0	74	72	E by S	Brisk wind, and cloudy

	1773.	Morn. Thermometer.	Noon. Latitude South. ° '	Noon. Longitude East of Greenwich. ° '	Noon. Barometer.	Noon. Thermom.	Even. Thermometer.	Wind.	Weather, &c.
☿	Sept. 29.	72	21 28½	188 36	30,1	72	71	E. by S.	Moderate wind and flying clouds.
♃	—— 30.	70½	21 12		30,0	70	68½	S. E. by E.	
☿	Oct. 1.	69	21 20½	185 40	30,0	72	69	Ditto.	Moderate wind, and cloudy.
♄	—— 2.	70½	21 21½		30,15	71½	68½	E. N. E.	Ditto.
☉	—— 3.	71	21 04		30,0	71½	72	Ditto.	
☽	—— 4.	70½	21 4	185 10	30,05	72½	70	Ditto.	
♂	—— 5.	66½	At Tongatabu, one of the Friendly Islands.		30,0	71	70	E. by N.	Brisk wind, with showers.
☿	—— 6.	67	21 4$\frac{9}{10}$		29,95	73	71	Ditto.	Gentle gales, with clouds.
♃	—— 7.	69	21 4½		30,0	71½	71	E. S. E.	
♀	—— 8.	71	22 1½	185 02	29,95	71½	70	S. W. by S.	Little wind, and cloudy.
♄	—— 9	70	22 25½	185 28	30,0	71	69	S. S. W.	Brisk wind, and fair weather.
☉	—— 10.	69	22 45	184 15	30,05	69	67	S. E. by S.	
☽	—— 11.	67	23 54	183 0	30,0	68	67	S. E. by E.	Moderate wind, and ditto.
♂	—— 12.	68	25 31	181 43	30,2	68	66	East.	
☿	—— 13.	67	27 11½	180 56	30,2	68	67	E. by S.	Moderate wind, and cloudy.
♃	—— 14.	66	28 42	180 14	30,1	66	65	East.	
♀	—— 15.	65½	30 15	179 47	30,2	67½	65	E. by N.	Moderate wind, and fine weather.
♄	—— 16.	64	31 38½	179 45	30,2	66½	65	East.	
☉	—— 17.	65	32 43	179 58	30,2	67½	65½	N. E.	Light winds, and fair weather.
☽	—— 18.	65	33 47½	180 05	30,0	67	64½	N. N. E.	
♂	—— 19.	64½	35 54½	180 21	29,15	65½	64	North.	Brisk gales, with rain.
☿	—— 20.	58	37 44½	179 45	29,65	60	59	West.	
♃	—— 21.	58	39 06½	178 26	29,25	64	60	N. W.	
♀	—— 22.	56	40 15	176 30	29,2	59	57	North.	Strong wind, in squalls.
♄	—— 23.	55	40 53½	176 05	29,55	56	56	S. S. W. ½ W.	
☉	—— 24.	56	41 30	175 28	29,3	61	55½	W. N. W.	
☽	—— 25	54	42 18	174 58	29,25	60	56	N. W.	Strong wind, and cloudy weather.
♂	—— 26.	55	42 33	174 42	29,6	54½	51	South.	
☿	—— 27.	54½	42 17	174 33	29,65	56	54	N. W.	
♃	—— 28	54	42 18	175 10	29,25	56	54	Ditto.	Ditto, and fair weather.
♀	—— 29.	53½	41 50	175 33	29,65	53	53	W. by N.	Moderate wind, and ditto.
♄	—— 30.	54	41 53	175 29	29,55	60	54	N. W.	Strong wind, and hazy.
☉	—— 31.	59	42 32	175 41	29,7	64½	55	N. N. W.	Ditto, and fair weather.
☽	Nov. 1.	58	42 52	175 45	29,15	61	54	N. N. W.	Little wind, and rain.
♂	—— 2.	58	41 37	176 0	29,65	57	52	W. by N.	Moderate wind, and cloudy.
☿	—— 3	53	41 20	175 30	29,75	53	54	S. S. W.	Light winds, and fair weather.
♃	—— 4.	54	41 40	175 0	29,7	60¼	59	N. W. by W.	
♀	—— 5.	56	41 34	175 10	29,65	51	54	S. W.	Strong wind, and heavy rain.
♄	—— 6.	54	11 37	175 57	29,6	52	53	South.	Ditto, with hail and rain.
☉	—— 7.	53	39 41	177 25	29,75	53	53	S. by W.	Little wind, and fair weather.
☽	—— 8.	60	39 01½	177 51	29,75	63	54	W. by N.	Ditto, with drizzling rain.
♂	—— 9.	56	38 21½	178 33½	29,65	57	57	S. by W.	Moderate wind, and fair weather.

1773	Morn Thermometer	Noon Latitude South	Noon Longitude East of Greenwich	Noon Barometer	Noon Thermom.	Even Thermometer	Wind	Weather &c.
☿ Nov 10	59	At anchor in Tolaga Bay		29,85	57	57½	S S E	Moderate wind, and fair weather
♃ —— 11	56			29,8	57	64	South	
♀ —— 12	56			30,1	59	54	S E	Strong wind, and squally
♄ —— 13	52			30,1	58½	57	S E by E	
☉ —— 14	57			30,2	61	66	E S E	
☽ —— 15	56			29,95	60½	60	S S E	Moderate winds, and fair weather
♂ —— 16	54	38 31½	178 37	29,65	64	60	N N E	
☿ —— 17	62½	39 42	178 07	29,6	67	62	N W	
♃ —— 18	63	39 59	177 45½	29,6	68	67	W N W	
♀ —— 19	62	40 39	177 09	29,55	68	62	N W W by S	Little winds, with squally weather
♄ —— 20	64	41 03	175 50	29,8	56	55½	Variable	Little winds, and cloudy
☉ —— 21	54	41 05	175 40	29,75	55	54	South	Strong wind, with rain at times
☽ —— 22	52	41 04	176 25	30,1	55	55	S S W	Moderate wind, with flying clouds
♂ —— 23	58	40 54	175 53	30 2	61½	56	S E	Little wind, and fair weather
☿ —— 24	57	41 36	175 0	30,3	61½	65	N E	
♃ —— 25	56½			30,0	56	57	N N W	Strong wind, and hazy
♀ —— 26	56			30,15	58	56	Ditto	Moderate wind, with rain
♄ —— 27	56	41 57	174 45	29 9	61	57	Ditto	Strong wind, with rain
☉ —— 28	58			30,2	62½	56	Ditto	Light airs, and hazy
☽ —— 29	57½	42 07	174 50	29,85	60	56	S W	
♂ —— 30	54			30,15	57½	55	S by W	Moderate wind, and fine weather
☿ Dec 1	56			30,22	63½	56	South	
♃ —— 2	56			30,08	66	57	N W	
♀ —— 3	57			30,02	67½	56	Variable	
♄ —— 4	56			29,8	59	54	N N W	Squally, with drizzling rain
☉ —— 5	54	On shore in Queen Charlotte's Sound		29,8	69	59	North	
☽ —— 6	55			29,7	68	66	Variable	
♂ —— 7	57			29,96	68½	68	N W	Strong wind and much rain
☿ —— 8	51			30,46	69	69	N N W	Moderate wind, and fair weather
♃ —— 9	59			30,4	69½	68½	W N W	
♀ —— 10	64			30,57	69	64	Variable	Little wind, and fair weather
♄ —— 11	60½			30,48	73½	69	N W	Little wind, and fine weather
☉ —— 12	63			30,39	73½	65	Ditto	Brisk wind, and fine weather
☽ —— 13	61			30,30	73½	65	Ditto	
♂ —— 14	61			30,38	74	73½	Variable	Moderate wind, and cloudy
☿ —— 15	59			30,26	64	61	N N E	Gentle breezes and fair weather
♃ —— 16	57			30,20	65	72	S S W	Brisk wind, and squally
♀ —— 17	54			30,0	66	59	N E	Gentle breezes, and fair weather
♄ —— 18	65			29 92	64	59½	N W	
☉ —— 19	61			29,96	66½	60	Variable	
☽ —— 20	61½			29,94	65½	62	N N E	
♂ —— 21	61			29 65	63	64	N W by N	Strong gales in squalls, & cloudy
☿ —— 22	65			29,8	65½	65	Ditto	Brisk gales, and hazy

1773.	Morn. Ther-mo-meter.	Noon. Latitude South. °	′	Longitude East of Green-wich. °	′	Baro-meter.	Thermom.	Even. Ther-mo-meter.	Winds.	Weather, &c.
♃ Dec. 23.	64	42	25½	175	10	30,1	66	65½	N. W.	Little wind, and fine weather.
♀ —— 24.	61½	43	0⅓	175	0	30,15	64½	62	E. N. E.	
♄ —— 25.	59½	44	39	175	56	30,2	62	61½	N. E.	Little wind, and foggy.
☉ —— 26.	57	45	43	176	59	29,	57	60	S. by E.	Little wind, and foggy, with drizzling rain.
☽ —— 27.	57	46	25	177	44	29,75	58	56	Ditto.	
♂ —— 28.	52	47	05	178	32	30,05	54	54	Variable.	
☿ —— 29.	52	48	07½	178	56	29,9	54	54	N. E. by E.	Brisk wind, and cloudy.
♃ —— 30.	51	49	33	179	37	29,4	56	51	Variable.	Little wind, and thick fog.
♀ —— 31.	50	50	36	179	50	28,95	48	50	S. S. E.	Strong wind, and much rain.
1774.										
♄ Jan. 1.	45	50	37	180	55	29,75	46	41	South.	Brisk wind, and flying clouds.
☉ —— 2.	41	51	37	183	11	30,05	48	42	W. by S.	Ditto, and cloudy.
☽ —— 3	49	53	11	186	18	29,7	49½	49	West.	Strong wind, and thick, with rain.
♂ —— 4.	49	54	41	189	27	29,25	46	46	Ditto.	Moderate wind, and heavy rain.
☿ —— 5.	43	55	29	192	42	29,4	46	46	W. S. W.	Brisk wind, and flying clouds.
♃ —— 6.	38½	56	27	196	7½	29,4	41	40	S. by W.	Ditto, with squally weather.
♀ —— 7.	38	56	57	199	42½	29,6	38	37	Ditto.	Ditto, with sleet.
♄ —— 8.	38	57	06	202	47	29,7	40	36½	S. by E.	Moderate wind, with showers.
☉ —— 9.	36	57	29	206	06	29,65	38	37	S. S. W.	
☽ —— 10.	37½	57	56	208	48	29,25	37½	36	W. by S.	Little wind, and thick, with rain.
♂ —— 11.	35	58	18	212	47	28,65	36	36	W. S. W.	Moderate wind, with snow at times.
☿ —— 12.	35	58	40⅔	215	20	28,5	38	36	S. W.	Light winds, and cloudy.
♃ —— 13.	36	58	45	216	39	28,55	41	37	Variable.	Ditto, with snow.
♀ —— 14.	37	58	45	217	50	28,55	37	38	W. S. W.	Little wind, with drizzling rain.
♄ —— 15.	39½	58	48½	221	46	29,0	38½	38½	West.	Brisk wind, with snow at times.
☉ —— 16.	39	58	50½	225	40	29,5	40	40	Ditto.	Brisk winds, with snow.
☽ —— 17.	39	59	5½	229	31	29,7	43	41	Ditto.	
♂ —— 18.	39	59	11	234	37	29,4	41	41½	N. W.	Strong wind, with showers.
☿ —— 19.	42	59	25	241	05	28,75	41	40	W. N. W.	Ditto, and flying clouds.
♃ —— 20.	43	59	52	245	39	28,45	41½	42	N. N. W.	Moderate wind, and thin clouds.
♀ —— 21.	38	60	9⅔	247	20	28,35	41½	40	S. E. by S.	Little wind, and cloudy.
♄ —— 22.	40	59	31	249	07	28,75	42½	40	S. ½ E.	Little wind, and flying clouds.
☉ —— 23.	40	59	15	251	54	28,5	42	41	S. by E.	Brisk wind, and squally at times.
☽ —— 24.	41	59	33½	255	26	28,85	38½	40		Little wind, and hazy.
♂ —— 25	43	60	18	259	30	29,2	43	42	North.	Brisk wind, and very hazy.
☿ —— 26.	41½	60	48	263	02	29,55	43	42	N. N. W.	Brisk wind, and foggy, with rain.
♃ —— 27.	41	61	13	266	45	29,3	41½	41½	N. W.	Little wind, and very foggy.
♀ —— 28	41	61	46	270	50	29,05	42	41	W. N. W.	Brisk wind, and foggy at times.
♄ —— 29.	41	61	50	275	34	29,3	42	42	N. N. W.	Ditto, and cloudy, with showers.
☉ —— 30.	43½	61	34½	280	40	19,35	41	41½	W. N. W.	Brisk wind, and fair weather.
☽ —— 31.	41	61	20	287	44	29,45	39½	41½	N. W. by N.	Moderate wind, and heavy rain.
♂ Feb. 1	41	61	02	291	31	29,4	41	41½	W. N. W.	Brisk wind, and thick, with rain.
☿ —— 2.	41	60	44⅔	295	55	19,25	42	41	Ditto.	Moderate wind, and cloudy.
♃ —— 3.	41	60	36	302	47	29,6	41	41	W. by N.	Brisk wind, with rain.

1774.	Morn Thermometer	Noon Latitude South ° '	Noon Longitude East of Greenwich ° '	Noon Barometer	Noon Thermom.	Even Thermometer	Winds	Weather &c.
♀ Feb. 4	36	60 32	307 06	29,65	39	37	N W	Moderate wind, and hazy
♄ —— 5	37	60 18	310 58	29 55	37	37½	N N W	
☉ —— 6	36½	60 16	312 40	28,9	38	35	E N E	Brisk winds with snow at times
☽ —— 7	35	59 17	315 02	29,35	41	36	S E	Little winds and hazy
♂ —— 8	37	58 30	317 20	29,8	37½	37	N W	Brisk winds ditto
☿ —— 9	35	57 20	320 18	29,85	37½	38	S W	Moderate wind, and foggy
♃ —— 10	39½	56 58	322 3	30,05	41½	38½	N N W	Ditto, and cloudy
♀ —— 11	39	56 22	324 24	29,85	41	39½	Ditto	
♄ —— 12	41	55 28	325 47	29,3	40	36½	N W by W	Strong wind, with drizzling rain
☉ —— 13	38	54 38	327 56½	29,35	41	39	N W	Brisk wind, with thick fog
☽ —— 14	38½	54 22	330 0	29,6	42	40	N N W	Little wind, ditto
♂ —— 15	39	54 11	333 0	29,3	40½	39	N W	Brisk wind, ditto
☿ —— 16	38½	54 02	336 09	29,2	39½	38½	S E	Moderate wind, & foggy, with rain
♃ —— 17	39	54 10	338 57	29 55	38	38	N E	Moderate wind and thick clouds
♀ —— 18	40	54 12	340 16	29 35	40	40	North	Little wind, foggy with rain
♄ —— 19	39	54 0	341 57	28 95	40	37	E S E	Brisk wind, and foggy weather
☉ —— 20	36	53 20	343 56	29 65	37	38	S W by S	Ditto, cloudy
☽ —— 21	39	53 24	346 50	29,1	39½	38½	W S W	Ditto, squally
♂ —— 22	37	53 11	349 37	29,95	40	39	West	Light winds, and fine weather
☿ —— 23	38½	53 04	352 29	29,7	39	39	West	Brisk wind and thick weather
♃ —— 24	40	52 47	355 43	29 45	39	39½	W N W	Strong wind, and foggy
♀ —— 25	39	53 16	358 17	29,3	38½	38	West	Ditto, with snow
♄ —— 26	37	53 35	0 3	29,2	33	36	E S E	Little wind, ditto
	Here, having made a complete revolution round the Globe, 360° of Longitude were dropped, and a day repeated. Saw the Southern lights, but not very bright							
♄ —— 26	37	53 27	3 8	29,6	37	37	W by S	Brisk wind and fine weather
☉ —— 27	35	53 54	5 27	29 7	40	34	North	Little wind and hazy
☽ —— 28	34	54 0	5 52½	29 0	35	36	E S E	Ditto, snow and rain
♂ March 1	34½	53 46	7 41	29,15	35½	34	N W	Brisk wind, snow and rain
☿ —— 2	35	54 4	9 51	29 2	35½	34½	W N W	Ditto, cloudy
♃ —— 3	34	53 18	11 40	29 45	35	34½	West	Ditto fair
♀ —— 4	37	52 42	11 31	29,0	39½	36	N W by N	Strong wind and heavy rain
♄ —— 5	37	50 44½	12 39	29,9	38	39	N N W	Ditto, cloudy
☉ —— 6	43	49 55	14 30	29,6	42	40	Ditto	Ditto, rain
☽ —— 7	38	48 32	14 1	29,85	41	39	West	Little wind, and flying clouds
♂ —— 8	38	47 37	13 52	29,95	40	38	N W by N	Brisk wind, and cloudy
☿ —— 9	45½	45 41	14 27½	29 85	4 ½	46	W by N	Strong wind, with squalls of rain
♃ —— 10	47½	43 14	14 50	29 7	50	49	W S W	Brisk wind and flying clouds
♀ —— 11	47½	41 48	14 19	30,05	55	46	S S W	Little wind, and cloudy
♄ —— 12	61½	41 16	14 34	29,6	64	58	N N W	Brisk wind with rain
☉ —— 13	64	39 59	15 14	29,6	60	61	W by N	Little wind and fair weather
☽ —— 14	64½	37 32½	16 4	29 7	65½	62	W S W	Brisk wind, and ditto
♂ —— 15	65½	35 31½	16 4	30 20	69	68	S W	Little wind, and fine weather
☿ —— 16	67	34 37	16 51	30 05	69½	68½	S E by S	

1774.		Morn. Thermometer.	Noon. Latitude South. ° ′	Noon. Longitude East of Greenwich. ° ′	Noon. Barometer.	Noon. Thermom.	Even. Thermometer.	Winds.	Weather, &c.
♃	Mar. 17.	68½	34 13	17 42	30,0	69½	69	W. S. W.	Little wind, and fine weather.
♀	—— 18.	68½			29,95	61	67	N. E. by N.	Little wind, and thick fog.
♄	—— 19.	68	At the Cape of Good Hope.		29,90	72	66	N. N. W.	Little wind, and clear.
☉	—— 20.	69			30,05	61	67	W. by N.	Strong wind, and squally weath.
☽	—— 21.	62			30,02	62	61	N. by W.	
♂	—— 22.				29,96	70		East.	
☿	—— 23.				29,92	70½		E. by S.	Little wind, and fine weather.
♃	—— 24.				30,0	70		Ditto.	
♀	—— 25.				30,1	68		S. E.	Strong wind, and clear weather.
♄	—— 26.				30,04	68		N. W.	Little wind, and fine weather.
☉	—— 27.				30,11	65½		Ditto.	Brisk wind, with rain.
☽	—— 28.				30,18	63		S. E.	Strong wind, and flying clouds.
♂	—— 29.				30,1	63½		Ditto.	Ditto, and hazy.
☿	—— 30.				30,13	66		N. W.	
♃	—— 31.				29,95	68		Variable.	Little wind, and fine weather.
♀	April 1.				30,0	68		North.	
♄	—— 2.				30,06	65		E. by S.	Little wind, and hazy.
☉	—— 3.				30,08	64½		N. W.	
☽	—— 4.				30,08	67		Ditto.	Little wind, and fine weather.
♂	—— 5.				30,1	66		E. N. E.	Strong wind, and ditto.
☿	—— 6.				30,0	72		S. E.	
♃	—— 7.				30,04	69		Ditto.	
♀	—— 8.				30,04	67		Ditto.	Strong wind, and hazy weather.
♄	—— 9.				29,99	67		Ditto.	
☉	—— 10.				29,89	67		Ditto.	
☽	—— 11.							Ditto.	Ditto, and fine weather.
♂	—— 12.							E. S. E.	Little wind, and cloudy.
☿	—— 13.							N. W.	Brisk wind, and flying clouds.
♃	—— 14.							Ditto.	
♀	—— 15.	66			30,1	67½		E. S. E.	
♄	—— 16.				30,1		72	N. N. W.	Little wind, and fine weather.
☉	—— 17.	64	33 13	17 31	30,15	65	66	S. S. E.	
☽	—— 18.	67	32 49	16 54	29,8	64	67	Variable.	Little wind, and much rain.
♂	—— 19.	64	33 5	16 7	29,9	66	69	N. N. W.	Ditto, and flying clouds.
☿	—— 20.	64	32 34	16 7	30,1	71	64	S. S. E.	Ditto, and fine weather.
♃	—— 21.	63½	31 13½	14 20	29,85	70	65	Ditto.	Brisk wind, and ditto.
♀	—— 22.	63½	30 16	13 0	29,85	66½	64	W. N. W.	Little wind, and ditto.
♄	—— 23.	65	29 15	13 23½	30,0	66	64	N. W. by W.	Ditto, and flying clouds.
☉	—— 24.	66	27 44½	11 43	30,0	66	65	South.	Brisk wind, and flying clouds.
☽	—— 25.	65	26 13	9 36	29,9	67	66	E. S. E.	
♂	—— 26.	66	24 57	8 28	30,0	69½	67	S. S. E.	
☿	—— 27.	66	23 48	7 12	29,9	70	67	S. S. W.	
♃	—— 28.	66½	22 49	6 19	29,9	69½	67	South.	Little wind, and fine weather.
♀	—— 29.	69½	21 53	5 18	29,9	75	68	S. E. by E.	

1774			Morn. Thermometer	Noon: Latitude South	Noon: Longitude East of Greenwich	Noon: Barometer	Noon: Thermom.	Even. Thermometer	Winds	Weather &c.
♄	April	30	69	21 22	3 31	30,1	77½	67	S E by E	Little wind, and fine weather
☉	May	1	69	20 52	2 40½	30 1	74	69	S E	
☽	——	2	69	20 22½	1 57	29 9	70½	68	S W	
♂	——	3	69¼	19 32½	1 13	30,0	74½	69	W S W	
☿	——	4	70	19 27	0 50	30 0	76	69½	S S E	
♃	——	5	71½	18 47½	0 0	30,05	73½	69	S E	
					West					
♀	——	6	70½	17 40	1 29	30,0	73½	69½	Ditto	Brisk winds, and fine weather
♄	——	7	71½	16 49	2 37	29,95	75	69	S S E	
☉	——	8	71½	15 48	3 38	30,0	74½	69	S E	Brisk wind, and cloudy
☽	——	9	71½	14 49	4 54	30,15	73	70	Ditto	Little wind, ditto
♂	——	10	73	13 22½	6 34	30,15	75	71	Ditto	Brisk wind, ditto
☿	——	11	74	12 2½	8 8½	29,8	77½	72	S E by S	Brisk wind, and flying clouds
♃	——	12	75	10 43	9 26	30,0	77	73	S S E	
♀	——	13	76	9 14	10 59	29,95	80	74	S E	Brisk winds, and fine weather
♄	——	14	75	7 55½	12 30	30,0	80½	77	Ditto	
☉	——	15	78	6 33½	14 17	29,85	81½	81½	Ditto	
☽	——	16	78½	5 14	15 45	29,9	82½	82	Ditto	
♂	——	17	79½	4 0½	17 10	29 9	78½	80½	S E by E	Brisk wind, with showers
☿	——	18	78½	2 35½	19 2	30,0	81½	80	S E	Brisk wind, and fine weather
♃	——	19	77	0 58¼	19 55	30,0	80	78½	Ditto	
				North						
♀	——	20	76	0 21	20 35	29,9	80	77	S E by S	Little wind, and cloudy
♄	——	21	77	1 24¼	21 0½	30,0	80	78½	S by E	Gentle breezes, and fine weather
☉	——	22	80	2 54¼	21 32	29,95	82¼	80	S S E	
☽	——	23	79	4 5	22 1	30,0	83	80	N E	Light winds, with showers
♂	——	24	78	4 37	22 17	29,95	79	80	E S E	
☿	——	25	78½	5 27	22 17	30,1	82	79	E by N	Light winds, and fine weather
♃	——	26	79	5 56	22 52	29,95	82	79½	N E	
♀	——	27	77	5 59¼	24 34	30,0	81½	79	Calm	
♄	——	28	75	6 11¼	24 57	29,9	81	80	S by W	Cloudy, with heavy showers
☉	——	29	75	6 38	25 33	29,95	79	75	Calm	
☽	——	30	75	6 41	25 0	30,0	76	75	Variable	Little wind, and heavy rain
♂	——	31	77	6 37	25 20	30,0	79½	76	Ditto	
☿	June	1	79½	6 48	24 57	30,0	81½	78	Ditto	Little wind, and fair weather
♃	——	2	79	7 7¼	25 37½	30,0	80½	79	N N E	Brisk wind, with rain
♀	——	3	79½	7 11	25 50	30,0	81	79	Ditto	Light winds, and clear weather
♄	——	4	78½	7 39	26 45	30,0	80	78½	N E by N	Ditto, and cloudy
☉	——	5	77½	7 59	27 11	30,0	79½	79	North	Little wind, and fine weather
☽	——	6	77	8 14	27 54	30,0	81	78	N E by E	
♂	——	7	78	9 15	28 51	30,0	80	79	Ditto	Brisk wind, and flying clouds
☿	——	8	77	10 29	30 06	29,9	79½	77	Ditto	Ditto, and cloudy
♃	——	9	77	11 51	31 12	29,95	79½	77	Ditto	Ditto, and flying clouds
♀	——	10	76	13 18½	32 31	30,05	77½	76	N N E	

1774.		Morn. Ther-mo-meter.	Noon. Latitude North. °	′	Longitude Weſt of Green-wich. °	′	Baro-meter.	Thermom.	Even. Ther-mo-meter.	Winds.	Weather, &c.
♄	June 11.	74	14	42	33	51	30,0	76¼	75	N. E.	Briſk wind, and ſqually.
☉	—— 12.	74	16	23¼	34	44	30,0	76	74	Ditto.	Ditto, and fine weather.
☽	—— 13.	73½	17	44½	35	37	30,0	75	74½	N. E. by E.	
♂	—— 14.	74	19	13¼	36	16	29,95	77	75	E. by N.	Light winds, and flying clouds.
☿	—— 15.	75	20	49½	36	37	30,05	76	75	E. N. E.	Squally, with ſhowers of rain.
♃	—— 16.	75	22	22	37	35	30,15	77½	76	N. E. by N.	Light winds, and cloudy.
♀	—— 17.	76	23	45	38	23	30,05	79	77½	N. E. by E.	Gentle breezes, and fair weather.
♄	—— 18.	76	25	9¼	39	13	30,25	77¼	76	Ditto.	
☉	—— 19.	75	26	34	39	11	30,2	77¼	75	E. S. E.	Briſk wind, in ſqualls.
☽	—— 20.	75½	28	0	39	0	30,3	76¼	75½	S. E.	Little wind, and thin clouds.
♂	—— 21.	74¼	29	17¼	39	24	30,25	76½	77	E. N. E.	Briſk gales, and ſqually.
☿	—— 22.	75	30	54	39	36	30,3	75	75	Eaſt.	Briſk wind, with ſhowers.
♃	—— 23.	75	32	39½	40	05	30,3	74	74½	E. by N.	
♀	—— 24.	72¼	34	23¼	40	29	30,45	73½	74½	Ditto.	Gentle winds, and fine weather.
♄	—— 25.	71¼	35	56	40	29	30,45	73½	73	Ditto.	
☉	—— 26.	71	37	12	40	20	30,35	72	72	E. S. E.	Little wind, and cloudy.
☽	—— 27.	71	37	45¼	39	32	30,3	73	71	S. E. by S.	Gentle breezes, and fine weather.
♂	—— 28.	71	37	53	40	10	30,4	76	72	Variable.	
☿	—— 29.	72	38	40	39	40	30,4	74½	72½	W. N. W.	
♃	—— 30.	73	39	13	39	0	30,4	76	73	Weſt.	
♀	July 1.	73	40	6	37	24	30,3	74½	73½	N. W. by W.	Briſk wind, and cloudy.
♄	—— 2.	69	40	51	35	55	30,15	76	71	Eaſt.	Light winds, with rain.
☉	—— 3.	70	41	33	35	0	30,1	70½	71½	N. W. by N.	Briſk winds, in ſqualls.
☽	—— 4.	72	42	44	32	32	30,1	72	70	Weſt.	Briſk wind, and cloudy.
♂	—— 5.	72	44	1	29	57	30,0	71	69	Weſt.	
☿	—— 6.	67	45	45	27	18	29,8	65	66	S. W.	Strong wind, and ſqually.
♃	—— 7.	56	47	10	23	58	29,85	59	59	W. N. W.	Very ſtrong wind, and ditto.
♀	—— 8.	57¼	48	5½	20	41	29,9	58	57½	N. W.	Briſk wind, and fine weather.
♄	—— 9	57	49	9	17	19	29,95	57	58	Ditto.	Strong wind, with heavy ſhowers.
☉	—— 10.	57	49	22	15	55	29,95	58	57	Ditto.	Little wind, and cloudy.
☽	—— 11.	57	49	27¼	11	31	30,1	61	56	Ditto.	Ditto, and fine weather.
♂	—— 12.	58	49	35½	8	1	29,9	60	54½	S W.	Briſk wind, and thick rainy weather.
☿	—— 13.	57	50	6¼	5	20	29,9	57	53	W. N. W.	Little wind, and hazy.
♃	—— 14	55	At Spithead.				29,95	54	66	N. W. ½ N.	Briſk wind, and ſqually.

ASTRONOMICAL OBSERVATIONS,

FOR

Determining the LATITUDE of the Ship and her LONGITUDE,

BY TWO WATCHES:

One made by Mr. KENDALL, on Mr. HARRISON's PRINCIPLES, and the other by Mr. ARNOLD.

Made on Board his MAJESTY's Sloop RESOLUTION,

In her late Voyage on Discoveries towards the South.

3 M

1772.		Time by Watch K. H ′ ″	Time by Watch A. No. 3. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude W. by K. ° ′	Longitude W. by A. ° ′	Latitude North. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☉ July	12.	20 19 50⅔	20 17 59⅔	37 39⅓	4 22⅓	4 06⅓	50 15¼	66	61	3	
☽ ——	13.	Noon.		61 28¼				65	61¼		
		5 24 21½	5 22 15	22 56	4 34½	4 15	49 44½			4	
♂ ——	14.	20 10 14	20 7 5	35 38	5 4½	4 23½	49 11			5	
☿ ——	15.	Noon.		62 25			48 50	65	64		
		4 59 45½	4 56 22½	27 25¼			48 34⅓			4	
♃ ——	16.	Noon.		63 37			47 28⅓	63½	61		
		4 53 25	4 49 21	29 23⅛			47 14			3	
♀ ——	17.	Noon.		64 30¼			46 24½	67	70		
		19 14 01	19 8 54	24 18⅔			46 37½			5	
		21 0 24		42 11						3	
		22 45 51		57 42						3	
♄ ——	18.	19 30 49	19 25 0	26 30⅔			45 35⅓	67	63	3	
☉ ——	19.	Noon.		65 12			45 20	66	64½		
☽ ——	20.	Noon.		66 27½			43 54	66½	66		
♂ ——	21.	Noon.		66 40			43 30	67	66		
		19 57 50	19 49 48	29 51			43 41⅓			2	
		21 50 4⅔	21 41 52⅓	49 47			43 40			5	
		22 18 11⅓	22 10 5⅓	54 25⅓			43 38½			3	
☿ ——	22.	Noon.		66 23			43 35	67	65½		
		5 18 6⅔	5 9 45⅔	25 41			43 26		69	3	
		19 2 41	18 53 53½	19 15½			42 41⅓			6	
♃ ——	23.	Noon.		67 28			42 18	65	64½		
		19 17 13⅓	19 7 38⅓	20 25⅓			40 32	63	65½	5	
♀ ——	24.	Noon.		69 31			40 2	67	66¼		
♄ ——	25.	Noon.		71 40			37 40	70½	70		
		6 3 48½	5 53 4¼	19 02			37 6⅓			4	
☉ ——	26.	Noon.		73 36			35 31½	71	72½		
		5 32 42⅓	5 21 11	25 45½			35 07			5	
		21 56 24½	21 44 14½	48 50½			33 56½			4	
☽ ——	27.	Noon.		75 10			33 43	71	72		
		20 0 18	19 47 18½	23 35⅛			32 54	73	72½	3	
		When the last Observations were taken, the island of *Porto Sancto* bore N. W. by N. distant about four miles.									
♂ ——	28.	Noon.		75 50			32 48½	73	72½		
♃ ——	30.	I carried both Time-keepers on shore at Funchial, on the island of Madeira, and compared them with the Astronomical Clock, (see p. 6.) from whence I find that Mr. Kendall's was losing at the rate of 1″,77 a day on mean time, and gave the longitude of the place 12° 50′ 14″ west of Drake's Island, or 17° 6′ 22″ west of Greenwich. Mr. Arnold's (No. 3.) was losing 56″,9 a day on mean time, and gave the longitude 9° 59′ 41″ west of Drake's Island, or 14° 45′ 49″ west of Greenwich.									
☉ Aug.	2.	Noon.		75 03			32 21½	73½	76½		
		5 56 28,4	5 38 12.4	21 30⅒			31 52½			5	
		20 8 35⅓	19 50 36	23 30⅓			30 14⅔	73½	73	3	
☽ ——	5	Noon.		77 25½			29 42 7/12	74½	77		

1772.	Time by Watch K. H ′ ″	Time by Watch A. No. 3. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude W. by K. ° ′	Longitude W. by A. ° ′	Latitude North. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♂ Aug. 4.	Noon.		78 15			28 $37\frac{1}{2}$	$74\frac{1}{2}$	75		
	3 56 $50\frac{1}{3}$	3 36 6	48 $16\frac{2}{3}$			28 $28\frac{1}{3}$	—	$76\frac{1}{2}$	6	
	6 43 9	6 22 $17\frac{1}{2}$	11 $56\frac{2}{3}$			28 25			3	
☿ —— 5.	Noon.		78 $40\frac{1}{2}$			27 $55\frac{1}{4}$	$74\frac{1}{2}$	76		
	4 12 31	————	45 4	18 $53\frac{1}{3}$	————	27 $38\frac{1}{4}$		$77\frac{1}{2}$	3	
♃ —— 6.	Noon.		80 $12\frac{1}{2}$			26 $7\frac{1}{2}$	$75\frac{1}{2}$	78		
	20 23 33	19 59 $14\frac{1}{2}$	23 $50\frac{1}{3}$			24 33	74	$74\frac{1}{2}$	3	
♀ —— 7.	Noon.		81 56			24 $6\frac{1}{4}$	76	79		
	20 1 47	19 36 $4\frac{1}{2}$	18 $9\frac{1}{2}$			22 $29\frac{3}{4}$	73	73	3	
♄ —— 8.	Noon.		83 28			22 7	$74\frac{1}{2}$	79		
	20 20 $42\frac{2}{3}$	19 53 $35\frac{2}{3}$	21 $21\frac{1}{5}$			20 $29\frac{1}{4}$	$74\frac{1}{2}$	79	3	
☉ —— 9.	Noon.		85 $22\frac{1}{2}$			20 $5\frac{1}{2}$	75	78		
	20 24 27,4	19 55 52,4	20 $45\frac{1}{10}$			18 $27\frac{3}{5}$	$75\frac{1}{2}$	$75\frac{1}{2}$	5	
☽ —— 10.	Noon.		87 9			18 1	77	79		
	20 42 25	20 12 26	23 56	22 $36\frac{1}{6}$		16 29	$77\frac{1}{2}$	78	3	
♂ —— 11.	Noon.		88 41			16 10,4	79	82		
	7 4 38	6 34 $01\frac{1}{2}$	7 $22\frac{7}{8}$	23 1		15 $47\frac{1}{2}$	—	—	4	
	20 38 22	20 6 57	22 $11\frac{1}{3}$	23 $10\frac{7}{8}$		15 $10\frac{5}{6}$	78	80	3	
♃ —— 13.	Noon.		89 $22\frac{1}{4}$			14 53	$80\frac{1}{4}$	82		
♀ —— 14.	Noon.		89 $2\frac{1}{4}$			14 $54\frac{3}{4}$	81	81		
♄ —— 15.	20 52 5,4	20 15 35	25 $13\frac{4}{5}$			12 35	80	80	3	
☉ —— 16.			88 $37\frac{1}{2}$			12 $19\frac{1}{8}$	81	81		
	20 22 21	19 43 36	18 $16\frac{2}{10}$			11 $56\frac{1}{4}$			4	
☽ —— 17.	22 51 37	22 11 17	55 $36\frac{4}{5}$						3	
	0 28 46	23 48 26	79 $15\frac{2}{3}$				81	82	3	
♂ —— 18.			88 $19\frac{1}{4}$			11 $22\frac{2}{3}$	81	82		
	20 10 $45\frac{3}{4}$	19 29 $12\frac{1}{4}$	16 $56\frac{6}{7}$			10 50	$80\frac{1}{2}$	80	7	
☿ —— 19.	1 50 $20\frac{1}{2}$	————	79 38						3	
	3 59 $45\frac{1}{2}$	————	48 $2\frac{2}{3}$						5	
♀ —— 21.	Noon.		86 $33\frac{1}{2}$			8 37	79	79		
	22 30 0	21 44 32	53 $13\frac{3}{5}$			7 55			3	
♄ —— 22.	Noon.		86 7			7 50	$80\frac{1}{2}$	80		
	4 53 32	4 7 42	31 $12\frac{7}{10}$			7 $41\frac{1}{3}$			5	
	20 6 50,6	19 20 12,6	19 $18\frac{1}{3}$			6 $57\frac{1}{3}$	79	80	5	
☉ —— 23.	Noon.		85 $25\frac{1}{2}$			6 $48\frac{1}{2}$	80	80		
	20 50 45	20 3 47	31 $21\frac{1}{2}$			6 29	$78\frac{1}{2}$	78	4	
☽ —— 24.	Noon.		85 $21\frac{1}{4}$			6 $23\frac{1}{4}$	80	79		
♂ —— 25.	Noon.		85 13 : :			5 54	80	$80\frac{1}{2}$		
☿ —— 26.	Noon.		84 46			5 $6\frac{1}{2}$	79	$76\frac{1}{2}$		
	20 22 $13\frac{1}{2}$	19 30 $26\frac{1}{2}$	27 $42\frac{9}{10}$			4 $18\frac{1}{2}$	78	78	4	
♃ —— 27.	Noon.		84 14 : :		East.	4 13	79	$80\frac{1}{2}$		
	4 52 $22\frac{1}{4}$	4 0 $8\frac{1}{4}$	24 $26\frac{1}{10}$			4 $8\frac{1}{2}$			4	
	20 8 $41\frac{1}{2}$	19 10 39	24 $36\frac{3}{10}$			3 $43\frac{1}{4}$			4	
♀ —— 28.	Noon.		84 4			3 $42\frac{1}{2}$	78	77		
	5 4 $7\frac{1}{2}$	4 10 35	19 $58\frac{1}{4}$			3 41			4	
	19 29 37	18 35 16	17 $29\frac{2}{3}$			3 $16\frac{1}{2}$			3	

1772.	Time by Watch K. H ′ ″	Time by Watch A. No. 3. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude W. by K. ° ′	Longitude E. by A. ° ′	Latitude North. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♄ Aug. 29.	Noon.		83 52			3 9¼	77½	78		
	5 3 41	4 8 49	18 33¼			3 0¼			4	
	19 17 36	18 21 51	16 10⅔			2 38½			5	
☉ —— 30.	Noon.		83 40½			2 35⅚	77½	77		
	5 8 34½	4 12 49½	15 22			2 35⅔			2	
	19 54 40	18 57 33	27 17⅔			2 33			3	
☽ —— 31.	Noon.		83 59½			2 33,2	79	78½		
	19 18 16½	18 19 43½	18 22³⁄₇			2 4	78	77	7	
♂ Sept. 1.	Noon.		83 46½			1 58¼	78	79		
	3 40 27½	2 41 26½	35 44			1 54½			2	
	19 40 34½	18 40 42½	23 19⅔			1 27⅙			4	
☿ —— 2.	Noon.		83 31½			1 21½	78	78		
♃ —— 3.	19 20 50½	18 18 36	15 47⅔			0 57⅓			5	
♀ —— 4.	Noon.		83 45			0 60¼	76	75		
	2 36 11	1 33 34	54 42½			0 49			6	
	3 16 46	2 14 9	44 48			0 49			6	
♄ —— 5.	Noon.		84 10			0 53⅔	75½	76		
	3 9 36	2 5 50½	46 33			0 54⅓			7	
	4 7 16	3 3 40	31 58			0 54⅓			4	
☉ —— 6.	Noon.		84 12½			0 33½	76	75		
	4 9 58½	3 4 56½	30 32¼			0 31			8	
						South.				
☽ —— 7.	19 22 26	18 15 1	16 42⅔			0 10½			3	
♂ —— 8.	Noon.		84 6			0 18	76½	76		
	19 42 53	18 33 48½	20 59½			0 51⅓			4	
☿ —— 9.	Noon.		83 48			0 59	76	75		
	19 55 48		23 2			1 53	75	74½	4	
♃ —— 10.	Noon.		83 10			2 0	76	75		
	19 27 17½	18 14 49	14 28¼			2 55⅝			5	
♀ —— 11.	Noon.		82 27½			3 5½	76	76		
♄ —— 12.	Noon.		81 44			4 11⅞	77	76½		
	4 7 1	2 54 37	34 52⁹⁄₁₀			4 18⅔			4	
	19 58 19	18 42 41	20 21			4 58¾			4	
☉ —— 13.	0 45 38		80 48						3	
	3 10 35		50 16⅓			5 12			3	
	20 22 24	19 6 30½	25 12⅓			6 23⅝	75	75	4	
☽ —— 14.	Noon.		80 10			6 32¼	76	76½		
	5 27 44	4 9 51½	17 13⅞			6 52⅔			4	
♂ —— 15.	Noon.		78 49			8 16½	75½	77		
	21 4 34	19 43 41	33 40½			9 17¼			3	
☿ —— 16.	20 32 34	19 10 9	25 9½		Weft.	10 55			3	
	21 55 19		43 50⅓						3	
	23 54 23		71 10⅜						3	
♃ —— 17.	Noon.		76 48			11 4	75	73½		
	20 7 29	18 43 40	18 23			12 12⅙			4	
	21 24 13½	20 0 20	36 50⅘			12 16⅙			14	

1772	Time by Watch K H ′ ″	Time by Watch A No 3 H ′ ″	Altitude of the ☉ s L L. ° ′	Longitude West by K	Longitude West by A	Latitude South ° ′	Thermom A	Thermom B	No of Obs	Remarks
♀ Sept 18	Noon		75 44½			12 31½	75	73½		
	21 58 48	20 39 24	43 58½			13 56			3	
	23 33 46½		64 39½						4	
	0 36 33		73 59½						3	
♄ —— 19	Noon		74 32			14 07	74	72½		
	5 9 37	3 43 42½	24 47½			14 15½			4	
	20 18 32	18 57 37	19 31½			15 24	72	72	6	
	22 1 39½	20 34 34½	43 47			15 29			6	
☉ —— 20	Noon		73 24			15 38	73	72½		
☽ —— 21	Noon		72 12			17 14	73	71		
	21 31 20½	20 2 6½	35 18½			18 30			10	
♂ —— 22	Noon		71 2½			18 46½	74	75		
☿ —— 23	Noon		70 0½			20 12½	73	73		
	6 7 10	4 36 2	12 59½			20 28			6	
	21 36 40	20 4 37	36 19½			21 24			6	
♃ —— 24	Noon		69 1			21 35½	72	72		
♀ —— 25	Noon		68 5			22 54½	71	70½		
	20 20 55	18 46 0½	16 55½			24 3	69	69	4	
♄ —— 26	Noon		67 6			24 17	72	73		
	5 25 38	3 50 13½	23 40½			24 21			4	
	20 12 50½	18 36 49½	15 23			24 40½	69	69½	5	
☉ —— 27	Noon		67 2			24 44½	71	74		
	6 17 57½	4 41 16½	12 0½			24 50			7	
	20 46 55	19 9 28	23 18½			29 19½				
☽ —— 28	Noon		66 40½			25 29½	71½	72		
	20 10 46	18 32 6	16 5½			26 8	69	67	4	
♂ —— 29	21 35 6	19 54 54½	36 38½			26 53½			4	
☿ —— 30	Noon		68 58			26 58½	71½	71½		
	5 27 48	3 47 7	19 42½			27 4½			5	
	20 19 14	18 37 49½	22 16½			27 23½			5	
♃ Oct 1	Noon		65 52			27 27½	71½	71		
	3 59 37½	2 17 38	37 17½			27 29			5	
	4 4 28	2 23 28½	35 59½			27 29			6	
	4 38 47½	2 56 09	29 1			27 28½			5	
	21 34 52½	19 52 2	39 35½			27 35½			4	
♀ —— 2	Noon.		66 4½			27 38½				Sextant made by Ramsden
			66 2½				68½	65½		Ditto by Dollond
	3 12 36½	1 29 19½	46 3½			27 40½			6	
♄ —— 3	Noon		65 57			27 44½				
	3 26 30	1 41 56	41 59			28 9½	66½	67½		
	21 19 35½	19 34 5	39 47½			28 14½			4	
☉ —— 4	Noon		65 27½			28 54				
	20 39 57	18 53 13	33 11½			29 2½	64½	62	4	
☽ —— 5	Noon		65 51½			29 9				
	4 4 33	2 17 26½	30 5½	11 13½		29 0½	62½	61	4	
						28 54½			14	Hazy

1772.	Time by Watch K. H ′ ″	Time by Watch A. No. 3. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude West by K. ° ′	Longitude West by A. ° ′	Latitude S. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☽ Oct. 5.	22 7 10	20 19 9	50 47½			29 40			4	
♂ —— 6.	Noon.		65 27			29 48½	64	61½		
	20 13 5	18 23 56½	27 25			31 2½			4	
☿ —— 7.	Noon.		64 17½			31 21	63½	60½		
	4 29 14	2 39 41	25 50			31 28½			4	
♃ —— 8.	Noon.		63 16			32 45½	63½	62		
	4 12 25½	2 21 30½	28 48½			32 56½			6	Very hazy.
	20 23 45	18 31 47½	30 44½			33 49			5	
♀ —— 9.	Noon.		62 24			34 0½	63½	61		
	20 4 32½	18 11 11½	28 27			34 20½			4	
♄ —— 10.	Noon.		62 16½			34 28½	63½	62		
	5 6 46½	3 12 57½	15 5½			34 31½			7	
	19 35 3½	17 40 30½	23 50½			34 42½			4	
☉ —— 11.	Noon.		62 25			34 44½	63	63½		
	4 13 29	2 18 34½	25 2⅞			34 46½			4	
	6 24 12	The Moon rose about two-thirds eclipsed.								
	6 53 24	End by Mr. Gilbert: naked eye.								
	6 53 51	Ditto, by Captain Cook: common ship's spying-glass.								
	6 54 57	Ditto, by W. Wales: a six inch achromatic telescope of Dollond's make, magnifying four times. Apparent time 6 h. 58′ 56″.								
	6 55 23	Ditto, by Dr. Forster: a two feet achromatic telescope of Ramsden's making.								
	6 55 30	Ditto, by Lieutenant Pickersgill: common three feet refracter.								
	7 4 0	I could see nothing of the penumbra with the glass that I used.								
	20 1 12	18 4 0½	29 42⅗			34 51½			4	
☽ —— 12.	Noon.		62 40			34 51⅙	63	63		
	4 56 3½	2 59 54	16 9⅖			34 52			7	
♂ —— 13.	Noon.		62 40			35 14½	64	65½		
	19 33 18	17 35 11	27 2½			35 30	60½	61	4	
☿ —— 14.	Noon.		62 44½			35 32½	63½	61		
	19 23 3½	17 23 41	26 49⅞			35 37			5	
♃ —— 15.	Noon.		63 1	East.		35 37⅖	62	62		
	19 6 19	17 5 44	25 59⅞			35 19½	60½	59	5	
♀ —— 16.	Noon.		63 43½			35 17	63	61		
	18 44 43	16 42 55	23 42 9/10			35 1	59	57	5	
♄ —— 17.	Noon.		64 23¾			35 0	61½	59		
	4 6 38½	2 3 26	18 17⅓			34 39½			5	
☉ —— 18.	Noon.		65 6½			34 37½	59½	60½		
	3 2 47½	0 59 30	29 21⅓			34 35½			4	
	19 24 2	17 19 57	35 37½			34 29½			5	Very cloudy.
☽ —— 19.	Noon.		65 46½			34 19	60½	57		
	4 2 14	1 57 42½	16 56⅕			34 23½			5	
	18 32 21	16 27 6	25 30⅕			34 41½			5	
	18 52 13½	16 46 57½	29 34			34 41⅓			4	
♂ —— 20.	Noon.		65 38½			34 48⅔	63½	62½		
	18 13 21	16 6 57	21 42⅔			35 20½	63	60½	6	

1772	Time by Watch K H ′ ″	Time by Watch A No 3 H ′ ″	Altitude of the ☉'s L. L	Long East by K °	Longitude East by A	Latitude S	Thermom. A	B	[illegible]	Remarks
♂ Oct 20	20 15 37	18 9 7	45 54$_{r}$			35 26$_{r}$			6	
☿ — 21	Noon		65 9$_{r}$			35 39	65+	63		
	4 29 12½	2 22 18½	11 54			35 49			7	Very hazy
	19 38 27	17 30 49	39 6$_{r}$	8 0⅛	33 49⅛	36 44¼			5	Very uncertain
♃ — 22	Noon		64 17$_{r}$			36 52¼	64	60		
	18 26 26½	16 17 43½	25 50$_{ro}$	8 53⅛	34 55⅛	37 12	62	58	5	
♀ — 23	Noon		64 18			37 12¼	63	64		
♄ — 24	Noon		65 13$_{r}$			36 38	59	61¼		
	2 47 29	0 36 51½	29 30⅕	11 32⅜	38 58⅛	36 30¼	57	54	4	
	20 42 37½	18 21 2	54 2			35 45			5	
☉ — 25	17 51 36	15 38 42	23 50⅜	14 9⅛	41 3⅛	34 53¼	59	58	4	
☽ — 26	Noon		67 52¼			34 39½	60	62		
	2 38 29	0 25 4	29 31⅛	14 26⅜	41 27⅜	34 29			4	
	18 4 13½	15 49 56$_{r}$	27 21¼	14 59⅜	42 10⅞	33 44	62	59	4	
♂ — 27	Noon		69 9$_{r}$			33 43	64	60		
	18 51 22½	16 35 39	27 57$_{ro}$			33 39			5	
☿ — 28	Noon		69 31			33 41⅓	66	67		
	3 27 44½	1 11 29	18 5⅜			33 45			7	
♀ — 30	Noon		69 56$_{ro}$			33 56	62¼	65		

☽ Nov 2 Carried both Watches on ſhore at the Cape Town, and compared them with the Clock B, by which the times of equal altitudes were noted, (See p 14) and found that Mr Kendall's was too ſlow for mean time, that day at noon, by 1 h 31 4 ,7, from which taking 1′ 11 on account of its going 5 8ths of a ſecond a day too ſlow, and being ſet 7 10ths of a ſecond too faſt for mean time, there will remain 1 h 29 53″,7 = 22 28 25″½ for the longitude of the Cape Town Eaſt of Drake's Iſland; that is 18° 12 18″ Eaſt of Greenwich, or 0° 10′ 57 leſs than the truth

The Watch A (No 3) was too ſlow for mean time, the ſame day at noon, by 3 h 54 25″,9 from which taking 28′ 7″,9 on account of its going 1 14 63 a day too ſlow, and being likewiſe ſet 10 ½ too ſlow for mean time at Drake's Iſland, we ſhall have 3 h 26 18″ = 51° 34½ for the longitude of the Cape Town Weſt of Drake's Iſland by this Watch; that is 47° 18⅜ Eaſt of Greenwich, or 28° 55 ′ more than the obſervations of Meſſrs Maſon and Dixon make it The former of theſe Watches was going 1″,2 a day too faſt for mean time, when here, and the latter 1 30″,642 too ſlow; and at theſe rates I ſuppoſed them to go until our arrival at Duſky Bay, in New Zealand I alſo ſuppoſed the longitude of the Cape Town to be 18° 23′½ Eaſt of Greenwich

I have to add, that in carrying the Watches on board the ſhip at this place, the Watch A (No 3) ſtopped I went on board in the long boat, by choice thinking it would be leſs liable to motion or accidents than a leſs, and ſat in the ſtern ſheets, with a watch on each ſide In lying the boat along ſide the ſhip, the Coxſwain let her ſtrike but not ſo hard as to give me any apprehenſions at the time; however on getting aboard, I found that this watch had ſtopped, and can aſſign no other cauſe On the 17th I let it a going, and at 1 h 2 31″½, by Mr Kendall's Watch, it ſhewed 1 h 5 0″ and I found it 1 h 29 39′,2 too ſlow for mean time at the Cape on the 18th at noon

1772.	Time by Watch K. H ′ ″	Time by Watch A. No. 3. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East by K. ° ′	Longitude East by A. ° ′	Latitude S ° ′	Thermom. A.	Thermom. B.	[illegible]	Remarks.
☉ Nov. 22.	3 10 29	3 6 3	24 14½	About 3 or 4 miles N. N. E. true off the Observatory.					4	
	17 12 59	17 7 54	22 9½	17 51⅞	17 29	34 11⅙	65	62	5	
☽ —— 23.	Noon.		75 44¼			34 36½	66	65		
	3 7 9	3 1 35	25 48¾	17 43¾	17 23¼	34 51½			4	
	17 39 19½	17 33 3	27 57½	18 10¼	17 47¾	35 16⅓	67	62	4	
♂ —— 24.	Noon.		75 9½			35 20½	65½	63½		
	3 7 2	3 0 28	26 2⅔	17 43¾	17 19¼	35 32⅝			4	
	17 49 36	17 42 7	29 6⅛	16 47½	16 5¼	36 49½	64	62	4	
☿ —— 25.	Noon.		73 30½			37 14	66	64		
	3 27 2	3 19 4	23 31½	16 29½	16 0¼	37 39½			4	Very hazy.
	17 55 28	17 46 41½	29 34¼	15 39½	15 10	38 46¼	67¼	66¼	4	
♃ —— 26.	Noon.		71 52½			39 3½	69	69½		
	2 50 18	2 40 9½	31 48⅙	15 30	14 55½	39 20			4	
	17 41 16	17 31 22	27 43	16 17¼	15 37½	39 55½	60	53	5	
♀ —— 27.	Noon.		71 1½			40 5⅙	60	53		
	2 31 44½	2 21 26	34 39⅔	16 39¼	16 0¼	40 17¾				
♄ —— 28.	Noon.		70 18½			40 58½	62	59½	4	
	17 38 21	17 26 8	27 16⅓	16 28½	15 40	41 56	57	52½	5	Very dubious.
☉ —— 29.	Noon.		69 19::			42 8	60½	51		Great sea.
☽ —— 30.	Noon.		69 15::			42 21	58½	55		Ditto.
	4 28 6½		13 4¼	18 2½		42 28			1	Very doubtful.
♂ Dec 1.	18 24 25½	18 8 22	37 11¼	18 22	17 21¾	43 34	56	46	5	
☿ —— 2.	20 35 49	20 18 24½	59 1½	18 27	17 22	44 24½			6	
♃ —— 3.	Noon.		67 37½			44 25½	55	49		
	4 12 45½	3 54 27	16 39	18 25	17 26¼	44 43			5	
	17 53 48	17 35 17	31 52½	18 32	17 24	45 23⅜	52¼	43¼		
♀ —— 4.	Noon.		66 26			45 45	53	44½		
	2 25 56	2 5 36	35 30⅔	18 34⅞	17 25¼	46 0			6	A great sea.
	18 6 34½	17 52 50½	33 48⅙	18 14¼	17 0⅞	46 48⅓	46	50½	5	
♄ —— 5.	Noon.		65 9			47 9½	48	52		
☉ —— 6.	Noon.		63 51::			48 34½	50	38		Foggy.
	3 0 25	2 39 12	29 41⅙	18 27¼	17 5	48 45			5	
☽ —— 7.	Noon.		62 43			49 49	47	42½		Very uncertain.
☿ —— 9.	Noon.		62 59::			49 45	44	36		
	17 43 0	17 16 42	31 42½	21 8½	19 37½	50 51½	41½	34	4	
♃ —— 10.	Noon.		61 44½			51 4¾	44½	36½		
	17 56 8½	17 28 30½	33 49	21 24½	19 42½	51 37⅛	42	32¼	4	
♀ —— 11.	Noon.		61 4½			51 49⅔	50½	34		
	1 56 52¼	1 28 44½	38 9½	21 47½	20 14	52 0½			4	
☉ —— 13.	20 13 12⅔	19 41 21	51 29 1/10	22 9½	20 29	54 53			6	
☽ —— 14.	Noon.		58 10½			54 55½	49½	33		
	1 59 5	1 26 57½	37 7¼	21 59½	20 9¼	54 57			5	
☿ —— 16.	17 58 18	17 22 28½	34 50⅔	23 34¼	21 48¼	55 8⅓			5	
♃ —— 17.	Noon.		57 57¼			55 16	53¾	33½		
	5 48 45½	5 12 14½	5 7 9/10	24 43½	22 55	55 8⅓			10	
♄ —— 19.	4 44 47	4 5 33½	12 8¼	26 4¼	24 12½	54 15		31½	10	

1772	Time by Watch K H ′ ″	Time by Watch A No. 3 H ′ ″	Altitude of the ☉ s L L	Longitude East by K ° ′	Longitude East by A ° ′	Latitude S	Thermometer A	Thermometer B	No of Obs	Remarks
☉ Dec 20	18 14 2	17 32 35¾	40 17½	29 24	27 28¾	53 51½	42	32½	4	
	19 23 1	18 41 31¼	49 24⅛	29 25	27 28¼	53 55⅚		33	4	
☽ —— 21	Noon		59 6¼			54 10½	50	33½		
	2 15 10		31 23¾	29 50		54 30		34½	4	
	18 18 48	17 35 58¼	41 4	30 20¼	28 22¼	55 5⅙	46	32½	5	Bad horizon
♂ —— 22	Noon		58 22¼			54 54	52	33		
☿ —— 23	Noon		57 50			55 25¼	59½	31		
	17 42 2	16 56 28	36 18 9/10	31 42¼	29 40	56 23	49	32½	5	
♃ —— 24	Noon		56 42¼			56 31¼	57	35		
♄ —— 26	Noon		54 39			58 31⅓	52	31½		
	4 12 15	3 23 16	17 58	26 13⅛	24 20¼	58 32		32	5	
	5 27 37¼	4 38 18	9 4¼	26 13⅞	24 8	58 32			3	
	19 4 0	18 14 10	42 11	24 43¼	22 35¼	58 22	47½	33½	5	
☉ —— 27	Noon		54 47¼			58 20	54	36		
	2 37 25	1 47 8	30 49¼	25 19¼	23 11¼	58 20			5	
☽ —— 28	Noon		54 20							
	2 45 49¼	1 54 4	31 42	21 25⅞	19 16⅝	58 44¼	50	35		
♂ —— 29	Noon		53 48¾			58 53			5	
☿ —— 30	Noon		53 33¼			59 12	48	33½		
	2 24 07	1 29 51	36 37	20 30¼	13 15⅝	59 23	56½	36½		
						59 27			5	
1773 ♄ Jan 2	4 6 48	3 7 35¼	27 0¼	10 19¼	8 5¼	58 52			9	
	4 29 13¼	3 30 3	24 3¼	10 26	8 12¼	58 52				
☽ —— 4	Noon		53 27¼			59 1⅙	52	33		
☿ —— 6	17 34 52	16 28 47	30 42⅛	27 36¼	25 14¼	60 33⅙	44	34	4	Hazy
	17 41 47	16 35 42	31 33⅛	27 36⅛	25 14	60 33⅙	44	34	5	Ditto
	19 40 49	18 34 38	44 39⅙	27 57⅞	25 35	60 36			5	Good
♃ —— 7	Noon		51 26¾			60 40⅙	51	35		
	19 9 38	18 1 56¼	42 38⅙	31 58¼	29 42¾	61 18	45	34	5	
♀ —— 8	19 9 38		42 38⅙	☉ N 57 E Ship's course S E at 5 miles an hour		61 22	53	34½	5	
	22 2 24		50 26⅞						4	
♄ —— 9	16 55 0	15 45 53	28 40¾	34 30¼	32 15¼	61 36	49½	33½	5	
	Noon		50 15			61 36	56½	35		
	19 18 16½	19 22 34¼	44 2⅞	35 56	33 42	61 54			5	
☉ —— 10	19 18 16½		44 2⅞	☉ N E by E Ship's course S at the rate of 3 miles an hour		62 0	55	34	5	
	23 57 10½		42 10						5	
☽ —— 11	16 52 5	16 39 46	29 2¾	36 58¼	34 45⅞	63 2⅝	40½	34	4	
	16 38 17½	15 24 22½	27 37¼	38 5¼	35 53¾	64 11	60	35	5	
♂ —— 12	19 16 27½	18 2 23¼	42 26⅝	37 53¼	35 41¼	64 11			5	
	Noon		47 11¼			64 11	56	35		
☿ —— 13	18 14 22	16 58 45	37 20	38 35	36 24¼	64 16⅞	49	34½	5	
	Noon		46 56			64 16¼	50½	38		Bad horizon

1773.	Time by Watch K.			Time by Watch A. No. 3.			Altitude of the ☾'s L. L.		Longitude East by K.		Longitude East by A.		Latitude S.		Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
	H	′	″	H	′	″	°	′	°	′	°	′	°	′				
☿ Jan. 13.	17	0	24½	15	43	6½	29	55⅕	38	47½	36	40½	64	1			6	
	17	9	5	15	51	47	30	49⅖	38	44	36	36¼	64	1			6	
♃ —— 14.	Noon.						47	5					63	57	57	35½		
	1	39	20¼	0	21	26	29	27⅕	39	7¼	37	01½	63	54⅛			5	
	17	1	25	15	42	25¼	30	4⅛	39	7⅜	37	2¼	63	35½	52	35	5	
	18	8	45	16	49	58½	36	55⅕	38	55¼	36	51½	63	32			6	
	18	30	50	17	11	23¼	38	59⅖	39	4½	37	0½	63	32			6	
♀ —— 15.	Noon.						47	18					63	32⅝	58½	42		
	3	28	41¼	2	8	56¼	17	26	38	51⅞	36	49¼	63	31½			5	
	19	6	49¼	17	45	57	41	3⅞	38	43⅞	36	42½	64	23			5	
♄ —— 16.	Noon.						46	8½					64	31	56	35		
	3	22	45	2	1	16¼	18	11	38	55⅛	36	55¼	64	55⅝	60	34½	6	
	18	32	39	17	10	7½	36	57⅖	38	52	36	53¼	66	21⅕		33½	5	
☉ —— 17.	Noon						43	51					66	36⅓	51¼	34		Very foggy.
	18	9	23	16	45	18	34	53 9/10	38	49⅖	36	51⅛	66	14	46	32	5	Ditto.
☽ —— 18.	Noon.						44	16					65	59⅓	52	34¼		Exceeding foggy.
	2	43	24¼	1	18	46	22	7⅖	38	43⅓	36	45⅖	65	36¼		33	5	
	17	18	19	15	52	44	36	44⅖	39	18¼	37	21⅞	64	41½	45	35	3	
♂ —— 19.	Noon.						45	33⅛					64	29	51¼	35		
	2	41	36¼	1	15	24	21	47¼	39	33⅞	37	36¼	64	17⅓		34½	4	
	16	56	9	15	29	1	28	29	39	36⅛	37	39⅛	64	16	48	33¼	5	
☿ —— 20.	1	32	13¼	0	4	31½	29	3⅗	39	53¼	37	53¼	63	47		33¼	5	
	16	55	17	15	26	33½	28	49	40	28	38	31½	63	1½	43	35	3	Very cloudy.
♃ —— 21	Noon.						46	50: :					62	46¼	53½	35¼		
	21	53	6¼				46	17⅖	Ship's Course E. N. E. 4 knots. ☉ N. 20° E. at 2d Observation.				62	47¼			5	
	23	46	10				38	58									5	
	2	44	54	1	16	30	20	15⅖	41	15⅛	39	20¼	62	28½	56½	35¾	7	
	17	10	26½	15	40	8½	31	33⅓	42	21¼	40	40¼	61	48	44	35½	5	
♀ —— 22.	Noon.						47	48¼					61	33⅝	54	37¼		
							47	50					61	32⅓				
	16	59	49	15	27	56½	31	44⅖	45	13	43	18	60	21⅓	47	35	6	
♄ —— 23	Noon.						49	5⅘					60	2¼	51½	36¼		
	1	19	13	23	46	50	27	50	46	33½	44	38½	59	41¼		35¼	5	
☉ —— 24	Noon.						50	29⅕					58	24¼	51¼	34¼		
	0	51	44¼	23	17	53	30	5⅖	49	14¼	47	19¼	57	59⅓	55	34¼	4	
♂ —— 26.	16	9	21½	14	30	16	28	1 1/10	50	41	48	48¼	56	46	41	35¼	5	
	17	44	42¼				40	11¾	Ship's Course N. E. by E. 4 knots.				56	31			4	
	20	18	47				51	3¼									4	
☿ —— 27.	Noon.						51	40¼					56	28	51¼	35		
	23	48	11½	22	9	33	37	15⅘	51	10	49	18¼	56	15	52	36	5	
	23	57	47¼	22	19	9	15	59⅓	51	18¼	49	26⅛	56	14½	52	36	3	
	0	23	52¼	22	44	14	32	48¾	51	8⅞	49	16⅓	56	13⅛	52	36	5	
	2	24	36	0	45	50⅓	16	4 1/10	51	9¼	49	18¼	56	6⅝			5	
	16	5	55¼	14	26	13½	28	8⅓	51	41¼	50	5	55	1	47	38	5	

1773	Time by Watch K H ′ ″	Time by Watch A No 3 H ′ ″	Altitude of the ☾ s L L	Longitude East by K	Longitude East by A	Latitude S	Therm. A	B	☉	Remarks
♃ Jan 28	Noon		53 24½			54 28	51	36		Ramsden's Quad
			53 24			54 28				Dollond's Quad
♀ — 29	Noon		55 7			52 29	53	38		
♄ — 30	16 9 16	14 24 35	31 46⅘	57 3½	55 17	51 13	48	39	5	
☉ — 31	20 33 31		55 55	☉ N 37° W at the 2d Observat Ship's Course N N E 5 m an h		50 50				
	2 53 6½		43 14							
	15 46 30	14 0 11	28 33	57 29⅞	55 46	49 17½	47	40	5	
☽ Feb 1	Noon		57 54½			48 51	54	41		
	17 18 15½	15 30 11	44 4⅞	59 38	57 56½	48 33½	48	43	4	
♂ — 2	Noon		57 52			48 36	56	45		
	0 5 20½	22 16 48	30 42	60 3½	58 22	49 0½		46½	1	
	15 44 39	13 54 59	30 20⅘	61 19½	59 39½	48 45½	51	43	5	
☿ — 3	15 46 1½	13 54 34	29 17⅓	59 50	58 14½	49 4	52	42	5	
♃ — 4	Noon		56 38			49 15	56	46		
	0 1 47	22 9 44	31 19	59 11⅓	57 38⅘	49 30	58	44	5	
	1 48 20½	23 56 9	14 9	59 19½	57 45½	49 37	60	43	9	
	16 3 7	14 9 54	31 15	59 0⅞	57 29	49 15	53	40	5	
♀ — 5	Noon		56 28			49 7	59¾	41		
	0 37 46	22 44 2	25 39	58 50½	57 18	48 40½	57	41	4	
	17 54 17½	15 59 28	47 42	58 44½	57 11½	48 6	51	43	5	
♄ — 6	23 1 52		40 24⅞	59 35		48 6		44	5	
	15 12 57	13 16 46	24 27	61 38⅞	60 6	48 39	48	44	5	
☉ — 7	Noon.		56 6½			48 51½	54	44		Ramsden's Quad
			56 7			48 51				Dollond's Quad
	0 23 53	22 27 6	24 56⅓	62 41⅓	61 9	49 4	63	45	5	
☽ — 8	18 42 25	16 42 39	52 23⅗	64 27		50 0			5	
♂ — 9	Noon		54 18			50 1½	57	45		
	15 36 37½	13 35 23	29 19	64 44½	63 18	49 51⅙	48	40	5	
	17 1 4	14 59 43	41 47⅓	65 59	64 33					
☿ — 10	Noon		53 54			50 6	52	41		
	23 44 31	23 42 45	28 11⅓	68 22½	64 33	50 23	53	41	5	
♃ — 11	20 54 57		48 19½	Ship's Course S by E 7 miles an hour ☉ N 42 W at 2d Obs		51 22			4	
	23 50 37		27 18½						6	
	23 50 37	21 47 12	27 18½	68 22½	66 58	51 34⅓			6	
	14 26 10	12 21 44	20 47	70 2	68 32	52 28			5	
	15 18 8	13 14 40	28 42	70 4⅙	68 41⅓	52 31⅓			5	
♀ — 12	15 39 46	13 35 16	31 39⅓	70 5½	68 42	52 32			5	
	Noon		50 33			52 47	56½	38		Ramsden's Quad
			50 32½			52 48½				Dollond's Quad
	23 45 52	21 40 48	23 56½	70 59⅓	69 37	52 20		38	5	
	13 15 44	11 39 41	15 44⅘	72 12⅙	70 50½	53 34			5	
	14 22 51	12 16 43	21 15	72 14⅔	70 53	53 37	48	35	5	

1773.	Time by Watch K. H ′ ″	Time by Watch A. No. 3. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude E. by K. ° ′	Longitude E. by A. ° ′	Latitude S. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♄ Feb. 13.	Noon.		49 6½			54 54½	55½	36		
	23 51 28¼	21 44 45	21 14½	73 25½	72 4¼	54 9½	57½	38¾	5	
☉ —— 14.	23 46 6¼	21 37 46½	20 0¼	74 23½	73 06½	55 40½	56	36	7	
	15 4 47¼	12 55 25½	29 7½	78 28	77 9¼	56 35½	54½	35	5	Very hazy.
	17 6 26		41 51½	Ship's course S. S. E. 7½ miles an hour.		56 53			4	
☽ —— 15.	19 39 58¼		44 2½						5	
	23 38 6		18 27½	80 8⅞	78 50¼	57 4	55	36¼	5	
	16 39 17	14 28 0	29 41½	Ship's course E. two miles an hour.		57 16	46	35	5	
♂ —— 16.	19 46 4		42 36⅓						5	
☿ —— 17.	13 43 18	11 28 58	19 36	82 47	81 34¼	57 53⅝	44	32	4	
	13 59 51½	11 45 34	21 49	82 54½	81 42	57 54	44	32	2	
♃ —— 18.	Noon.		43 21			57 57	53	33		
	23 43 28½	21 28 34	14 32½	84 32½	83 7½	58 2½	56½	33	5	
♀ —— 19.	Noon.		42 27:			58 30	52¾	35		
	13 48 1	11 30 32½	23 35½	90 43⅞	89 33¼	58 47¼	43½	32½	5	
♄ —— 20.	Noon.		41 49½			58 46¼	54½	35		Ramsden's Q.
			41 48½			58 47¼				Dolland's Q.
	23 33 10	21 15 2	11 26⅞	91 38⅞	90 28⅞	58 46⅛			9	
☉ —— 21.	13 15 5	10 54 21	19 56⅛	93 21¼	92 14	59 18⅓	45½	34	3	Very cloudy.
♂ —— 23.	Noon.		38 29:			61 1⅓	54¾	35		Ditto.
☿ —— 24.	15 37 27		33 19	Sun N. 80 E. Ship's course S. E. 2 miles an hour.		60 49	56	36½	5	Very hazy.
♃ —— 25.	18 11 7½		37 34½						4	
	22 17 39	19 51 19	17 16½	95 27½	94 26¼	60 49½	57¼	36¼	5	
	12 40 59½	10 13 37	16 2½	97 7¾	96 8⅛	60 58⅛			4	
♀ —— 26.	Noon.		37 15¾			61 8	57	36¼		
♄ —— 27.	12 52 6¼	10 21 27½	20 5	103 41¼	102 46	60 3	45	35¼	4	
☉ —— 28.	Noon.		37 41½			59 57½	50½	36½		
☿ March 3.	Noon.		36 14½::			60 16⅓	55	38		
	19 9 58	16 34 17	29 0$\frac{1}{10}$	110 5⅞	109 11	60 13¼			5	
♀ —— 5.	Noon.		35 6¼:			60 38⅔	55½	37¼		
	19 44 27½	17 5 24	21 58	116 58¾	116 0	60 26⅓				
♄ —— 6.	20 37 31	17 56 38	15 11⅓	118 34½	117 47½	59 56⅓	54	37	7	
☉ —— 7.	11 8 12	8 24 33½	20 27½	120 35	119 53¼	59 44	46¼	35¼		
☽ —— 8.	Noon.		34 51¼			59 44	54¾	40		Dollond's Q.
			34 52			59 43½				Ramsden's Q
	19 48 57½	17 4 43	19 8	120 39¼	120 6¼	59 44¼			5	
♂ —— 9.	Noon.		35 17¾:			58 55½	51⅓	37		
☿ —— 10.	Noon.		15 43			58 6	48½	35		
	21 12 30¼	8 24 7½	17 47	129 15½	128 34¼	57 53¼	44	35	4	
♃ —— 11.	15 46 13		34 54¾	Ship's course S.E. 6¼ miles an h. ☉ N. 17° W. at 2d Observat.		58 10½			4	
	17 7 31		30 52¾						4	

1773	Time by Watch K H ″	Time by Watch A No 3 H ″	Altitude of the ☉'s L L ′	Longitude East by K	Longitude East by A	Latitude South	Thermo A	Thermo B	[illegible]	Remarks
♃ March 11	10 44 30	7 54 29½	14 28 1/10	130 49½	130 10¼	58 55′	47	47	5	
♀ — 12	Noon		34 7			58 55′	56+	39		
♄ — 13	Noon		33 57			58 12	53+	36+		
	18 32 33	15 40 2	20 41 9/10	133 14¼	132 37¼	58 43′	3	5	5	
☉ — 14	Noon		33 54			58 21½	51	33		
	18 37 5½	15 43 15	18 45½	135 52½	135 17½	58 23			5	
	11 56 21½	9 1 20½	24 41½	138 32½	137 58¼	58 58	41	31¼	5	
☽ — 15	Noon		32 48			59 4				R imfl n Q
			32 47½			59 4¼	50	31		D illon l Q
	10 9 28½	7 13 0	14 7⅛	141 21½	140 48¼	58 52⅛	41	33+	1	
	12 22 20	9 25 45½	27 42¼	141 49½	141 15¼	58 52			4	
	12 30 43½	9 34 9	28 18½	141 45½	141 11¼	58 52			6	
♂ — 16	Noon		32 37			58 51¼	53	35		
	18 57 8½	16 0 7	15 56½	143 7½	142 34¼	58 53	55+	36	5	
☿ — 17	19 8 21		8 33½	146 43½		58 3			1	
♃ — 18	Pocket Watch	14 48 35½	33 26½	Ship's course N E. by N 6¼ miles an hour		56 26½			2	
		16 31 53	26 36½						5	
	17 50 26	14 50 16	17 19⅞	149 30½	148 59¼	56 8				
♀ — 19	9 37 30	6 34 43	16 45½	153 3¼	152 34	53 43⅞	51	45+	5	
♄ — 20	Noon		36 31½			53 22	54	45		
	17 56 48½	14 53 27	14 29 9/10	154 16¼	153 47¼	52 48			5	
☉ — 21	10 45 24	7 39 16	29 18½	158 14½	157 48½	50 11			4	
☽ — 22	Noon		39 12½			49 55	56+	47		
	17 15 34	14 8 36	18 20½	158 52¼	158 27½	49 30			5	
	9 7 6	5 59 19½	17 57½	160 14½	159 52½	48 3	51	47		
♂ — 23	Noon		40 58½			47 45	58	49		
	17 13 24½	14 5 3	17 44	161 8½	160 45¼	47 30	58	49	5	
☿ — 24	16 58 51	13 48 39½	18 53½	163 9½	162 47¼	46 23′	60	54+	1	
♃ — 25	Noon		41 42¼			46 14	58	54		
	8 40 55	5 28 12½	16 52¼			45 51	56	52	4	

♄ — 27 We got moored in Dusky Bay, New Zealand; but the place was so inconvenient, the weather so bad, and I had so much wood to clear away before I could erect my Observatory, that I did not get the Clock agoing before that day sevennight after wards On ♂, April the 6th, I compared both Watches with it, (See p 25 and 26) and continued to do so every day until the 22d, from whence I found that Mr Kendall's was gaining at the rate of 6″,726 a day on mean solar time and that of Mr Arnold's (No 3) 101″,051 Reckoning from the Cape of Good Hope, at the rates they were going when there, the former made the Longitude of the Observatory, at this place, 165° 12′ 37″, and the latter 165 38 35 East of Greenwich. If we reckon all the way from Drake's Island, in Plymouth Sound at the rates the Watches were going when at Greenwich, Mr Kendall's will give the Longitude of the Observatory 168 3′ 16″¼ East of Drake's Island and Mr Arnold's 247° 51′ 24″; that is 163 47 9″, and 243 35 16 East of Greenwich As the Watch made by Mr Arnold stopped at the Cape of Good Hope, it may be necessary to shew how I have made these deductions from it On No

vember 14th, at noon, it was 4 h. 12′ 33″,61 too slow for mean time at the Cape, and it was then losing at the rate of 90″,642 a day; wherefore it ought to have been too slow for mean time on the 18th, at noon, by 4 h. 18′ 36″,21; but as I then found it only 1 h. 29′ 39,″2 too slow, it is plain that it had been set faster than it would otherwise have been by 2 h. 48′ 57″. If from this we subtract 1 h. 5′ 36″, what it would have been too slow according to its Greenwich rate of going, and what it was set too slow for mean time at Drake's Island, there will remain 1 h. 43′ 21″ for what it should be too fast for mean time at Drake's Island on ♂ April the 6th, at noon, by the time at Dusky Bay; which being added to 14 h. 48′ 4″,6, what it was that day actually too slow for mean time at that place, gives 16 h. 31′ 25″,6=247° 51′ 24″ for the Longitude of Dusky Bay, East of Drake's Island, as above.

It appeared, moreover, that the Watch made by Mr. Kendall was too slow for mean time at Dusky Bay, on ☉ April 25th, at noon, by 11 h. 13′ 7″,3; and that made by Mr. Arnold, (No. 3.) by 15 h. 20′ 5″,8. On these suppositions, and that the true Longitude of the Observatory was 166° 18′ East, I computed the Longitudes of the ship between this place and Queen Charlotte's Sound.

1773.	Time by Watch K. H ′ ″	Time by Watch A. No. 3. H ′ ″	Altitude of the ☉'s L. L. ° ′	Longitude East by K. ° ′	Longitude East by A. ° ′	Latitude S. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♂ May 11.	Noon.		26 21$\frac{1}{4}$			45 34$\frac{1}{4}$	58	44$\frac{1}{4}$		
	16 51 49$\frac{1}{4}$	12 17 40	5 32$\frac{1}{3}$	165 55	165 35$\frac{1}{3}$	45 26$\frac{1}{4}$			5	
♃ —— 13	10 18 0		22 12$\frac{1}{4}$	170 18$\frac{1}{4}$		41 54			4	
♀ —— 14.	Noon.		29 17$\frac{1}{4}$			41 52$\frac{1}{4}$	65$\frac{1}{4}$	58		
	16 38 36$\frac{1}{4}$	11 59 39$\frac{1}{4}$	6 20$\frac{1}{4}$	170 28	170 1$\frac{1}{8}$	41 49			5	
	16 47 33	4 7 35	11 17$\frac{1}{8}$	170 59$\frac{1}{4}$	170 29$\frac{1}{4}$	41 19	61	53	5	
♄ —— 15.	Noon.		29 43$\frac{1}{4}$			41 13	62	56		
☉ —— 16	8 19 47	3 36 20$\frac{1}{2}$	8 9$\frac{4}{5}$	172 38$\frac{1}{8}$	172 4$\frac{1}{4}$	40 25$\frac{2}{5}$	56	51$\frac{1}{4}$	5	
	9 50 45		20 54$\frac{7}{8}$	172 35$\frac{1}{4}$		40 29$\frac{1}{10}$				
☽ —— 17	Noon.		29 55			40 33$\frac{7}{8}$				
			29 55$\frac{1}{5}$			40 33$\frac{1}{4}$				
♂ —— 18.	Noon.		29 12$\frac{1}{2}$			41 3				

Although we anchored in Queen Charlotte's Sound the 18th, I did not attempt carrying any Instruments on shore there before the 24th, being all that time in daily expectation of leaving it; but seeing then no likelihood of going soon, I carried the Astronomical Quadrant on shore at a beach near the ship, and was fortunate enough to get equal altitudes that day, the 30th, and June 3, (see p. 48, 49.) I noted the times by Mr. Kendall's Watch, and compared Mr. Arnold's (No. 3.) with it. The comparisons were,

1773.	Watch K. H ′ ″	Watch A. H ′
☽ May 24.	13 46 8$\frac{1}{4}$	8 50
☉ —— 30.	15 3 16$\frac{1}{4}$	9 57
♃ June 3.	12 45 6$\frac{3}{4}$	7 32

1773	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉ L L	Latitude S	Longitude East by K	Th on A	Th on B	[illegible]	Remarks

Hence I found that the former was now gaining at the rate of 9″,05 and the latter losing at the rate of 94″,158 a day on mean time The former, allowing its Dusky Bay rate, gave the difference of Longitude between this place and that 7 26 30 and allowing its rate of going as determined now 7 45′ 54 that is 173 44 39 and 174 4 3″ East of Greenwich If the rate which Mr Arnold's Watch was going at when at Dusky Bay be allowed it will make the difference of Longitude between those places 6 40 56″ and by allowing the rate it was going at here 7 33 24 that is 172 59 5″, and 173 52 33 between this place and Greenwich If their Greenwich rates be allowed them all the way from England, the Watches will place Queen Charlotte's Sound 174 7½, and 271 50 33″ East of Drake's Island respectively; that is 169 51⅛, and 267 34 25 East of Greenwich

May 28th, that lock of Mr Arnold's Watch, which Lieutenant Cooper had the key of, got spoiled; I suppose by a wrong key being given, by mistake to Lieutenant Pickersgill, who attended that day for Lieutenant Cooper to open the box so that on the 29th it could not be opened After unlocking the other two locks, a screw driver was introduced between the box and lid, and the lock forced by turning the screw driver round I am certain no injury did, or could possibly happen to the Watch by doing this The lock being damaged it was taken off and the Watch trusted under the other two until June 3, when we got it repaired and put on again, and Mr Cooper locked it as before I have been thus circumstantial, because when we came to wind the Watch up, June 7th, at noon, I found the fuzee would not turn, and we were obliged to let the Watch go down, and stand ever afterwards

Mr Kendall's Watch was too slow for mean time at Queen Charlotte's Sound, on June 3, at noon, by 11 h 38 17″,97; and in computing the Longitude of the ship by this Watch, in our run from hence to Otaheite, I have supposed its rate to be as above mentioned, and that the true Longitude of the Beach in Queen Charlotte's Sound, where I observed, is 173 46 1¼, which results from Mr Bayley's Observations made here; and the experiments mentioned on p 49

☽ June 7		Noon	25 55½	41 8½					
	9 6 31¼					59¾	55		
♂ —— 8		Noon	11 36¼	41 48¼	174 39¼	56	51½	5	
			25 2¼	41 56⅛					
	16 1 39					58	52		
			6 30⅛	42 6¼					
☿ —— 9		Noon			175 20	60½	52	3	
			24 1	42 57½					
	9 41 34½					58¾	55		
			15 43½	43 49⅝					
♃ —— 10		Noon			178 49¼	57	53½	6	
♄ —— 12			22 54	43 54¾					
	9 51 59					60¼	54		
☽ —— 14			15 52⅛	46 8					
	8 53 33½	21 16 18	10 42 9/10	46 41⅛				5	) Very uncertain on
♂ —— 15					185 17¼			6	} account of the Latit
		Noon	19 44¼	46 46⅝					
	14 30 0	2 53 26				48¼	56		
☿ —— 16	9 27 33	21 52 8	9 32 1/10	46 52	185 29¼	48	56	5	
♃ —— 17			4 20	46 22					
		Noon						4	
	8 38 16		20 8¼	46 18¼		56½	49¼		
♀ —— 18		21 9 41	10 27⅛	45 59⅛	187 43⅞	54½	49¼	5	
		Noon	20 30½	45 54					
	14 10 0	2 44 25½				55	48		
☉ —— 20	8 8 39	21 4 16	11 14⅞	45 48	188 30½	55	47½	5	
			11 0⅛	44 26	194 0¼	51¼	48¼	5	

1773.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☽ June 21.		Noon.	21 56⅔	44 26		53¼	50½		
	8 4 41	21 5 31	11 3	44 34½	195 45	53	50½	5	
♂ —— 22.		Noon.	21 47:	44 36		55¼	52½		
	11 12 20½		21 42½	44 35⅔	Ship's course East, 2 miles an hour.			4	
	13 46 55		11 32½					5	
	13 46 55	2 49 53	11 32½	44 37	196 0½			5	
☿ —— 23.		Noon.	21 46	44 37½		56	50½		
	13 53 18	3 1 24	10 13½	44 37½	197 23			5	
	14 6 46	3 14 56½	8 34½	44 37½	197 24			7	
♀ —— 25.	8 7 1½	21 10 52	12 53 1/10	43 3½	196 34½	58	54	6	Very cloudy.
♄ —— 26.		Noon.	23 17¾	43 9½		60	55¼		
	13 59 16	3 4 32	10 54½	43 17½	196 58⅔			3	Very uncertain.
☉ —— 27.		Noon.	23 55¼	42 34		59	53¼		
☽ —— 28.		Noon.	24 7::			60	52½		Very foggy.
	6 49 18	19 58 28	3 50¼	42 37½	198 11¼	58	51	5	
	7 57 37	21 7 5	12 51½	42 39½	198 14½			3	Very cloudy.
♂ —— 29.		Noon.	23 48¼	42 46¼		61½	52¼		
	14 6 56¼	3 18 42⅔	9 30	42 54	198 35⅔			5	
	7 30 35	20 43 45	9 40½	43 5½	199 15			5	
☿ —— 30.		Noon.	23 32½	43 6		59	51¼		
	7 52 47	21 14 6	13 21½	43 11½	201 22½	55	48	5	
♃ July 1.		Noon.	23 35	43 7⅛		56	49		Ramsden's Quad.
			23 34½	43 7⅔					Dollond's ditto.
	13 37 7	2 59 18	11 51⅔	43 7½	201 36¼	57	49¼	5	
	6 51 48⅔	20 17 51¾	6 25	43 2½	202 40	52½	45	6	
♀ —— 2.		Noon.	23 44½	43 2½		56½	47		
	14 3 30¾	3 31 7	7 55½	43 2½	203 1¼			6	
	7 18 54¼	20 49 54	10 33½	43 14	203 57⅞	53	48	5	
♄ —— 3.		Noon.	23 33½	43 18		56½	47¼		
	13 51 27	3 25 50	8 27 9/10	43 22⅔	204 42¼	61	49	5	
	9 24 4½		21 26⅞						
☉ —— 4.		Noon.	22 58	43 58		54	48¼		
	13 48 54	3 25 12	8 19½	43 48	205 23½	55	49	6	
	7 41 24	21 22 50	14 31⅔	43 18	206 45			5	Cloudy, and great sea.
	7 41 24		14 31⅔	43 11½	☉ N. 30 E. at 1st obs. and N. 44 W. at 3d. Ship's course E. N. E. 4½ miles an h.			5	
☽ —— 5.	10 45 2		23 36⅜					3	Ditto.
	12 54 20		14 32 3/10					5	
	12 54 20	2 38 45½	14 32 3/10	43 5	207 30¼	55½	49½	5	More certain.
	7 3 13¼	20 48 10	11 12½	42 19½	207 50¼			5	
♂ —— 6.		Noon.	24 59½	42 7½		56½	51		
	13 26 15	3 13 26½	11 18¼	41 55½	208 16½			5	
	6 21 44¼	20 9 31½	6 37	41 23	208 44¼	55	51	7	Hazy.
☿ —— 7.		Noon.	25 51	41 22		57	52¼		
	13 37 19	3 27 11	9 56 1/10	41 22½	208 53¼			5	By Lieut. Clerke.
	7 42 36¼	21 37 28	17 29 1/10	41 52½	210 29¼	54¼	51½	5	

1773	Time by Watch K H ′ ″	Apparent Time H	Altitude of the ☉'s L L	Latitude South	Longitude East by K	Therm. A	Therm. B	No. of Obs.	Remarks
☿ July 7	7 42 36½		17 29½	41 58	⊙ N 42 E at 1st observat. Ship's course E S E 6 miles an hour			5	
♃ — 8	10 51 9		24 20½					6	
	13 53 43	3 52 8	6 2⅞	42 6½	211 14½	58	51½	4	
	6 43 29½		11 8⅞	42 35½	212 43½			5	
♀ — 9		Noon	24 47	42 39½		54½	51½		
	13 25 16½		8 39⅓	42 46⅛	213 13½	58	51	4	
	6 28 57	20 42 1½	9 59½	43 27½	215 2½			6	
♄ — 10	6 44 49½		13 8½	43 33½	217 28			6	
☉ — 11		Noon	24 7½	43 34⅙		54	47		
	14 40 9	3 5 3½	11 41⅓	43 32½	218 5	55½	47	5	
	6 14 37½	20 44 6	10 37⅓	43 17⅓	219 23	52	47	9	
	6 52 53	21 23 28	15 16⅝	43 17⅓	219 33½			8	
☽ — 12		Noon	24 33½	43 15 9/10					Dollond's Quad
			24 33½	43 15⅘		54	49		Ramsden's ditto
	13 2 7½	3 34 12½	8 14	43 14⅓	219 57	56	49	6	
	5 46 59	20 21 3	7 46½	43 2½	220 29	53	47½	6	
	7 3 32	21 38 27	17 13⅓	43 2⅓	220 42½			6	
♂ — 13		Noon	24 56	43 2					Dollond's Quad
			24 56½	43 1½		56½	49		Ramsden's ditto
♀ — 16	13 4 56½		7 34½	42 57½	221 2½	57	49	4	Very cloudy
		Noon	27 1½	41 24½		51	46		
	12 40 33	3 28 46	10 53½	41 11	224 14½	51½	46½	5	A great sea
♄ — 17	6 22 48½	21 17 1½	17 51½	39 53	225 53½			4	
		Noon	28 51½	39 43½					
	12 39 49	3 35 49	11 7⅞	39 19	226 15¼	48	44½		
	5 2 41	19 58 53	8 2⅓	38 4½	226 20¼	49½	45	4	
☉ — 18		Noon	30 49½	37 55⅗		49	47½	7	
	12 52 23½	3 41 47½	18 11	37 49	226 24¼	51	49½		
☽ — 19		Noon	32 21½	36 34½		53½	49	7	
	13 1 11½	3 58 30	9 36½	36 25⅓	226 41¾	55½	57		
	4 55 45	19 52 29½	8 38½	35 38	226 35½	57½	53½	7	
♂ — 20		Noon	33 47	35 20				5	
☿ — 21	13 0 11	3 53 16½	13 2⅓	32 24	225 46½	58¼	58¼		
	4 56 47	19 48 2	10 23⅓	31 23⅛	225 19¼	63	61	5	
♃ — 22		Noon	38 24½	31 5½		62½	61	6	Very hazy
	13 9 47	3 59 59	12 55½	30 47⅜	225 5½	64¼	63		
	4 44 28		8 40½	29 34	224 41½	65	62¼	6	
♀ — 23		Noon	40 19½	29 22½		63	61½	7	
☉ — 25	10 26 1		38 8	29 43⅓	223 20½	66	63½		Cloudy
	12 14 51		24 30½		⊙ N 46 W at 2d Observation Ship's course N E by E 4 miles an hour				Cloudy
	5 20 45	20 6 4	15 28⅙	28 58½	224 4	68	66	7	Cloudy
☽ — 26		Noon	41 27½	28 52½		69⅓	66½		
	12 2 14	2 48 47	26 42	28 46	224 20	71	67	5	

1773.		Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude South. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☽ July	26.	12 27 5½	3 13 45	22 41	28 45¼	224 21½			6	
		4 49 51	19 37 3½	10 43½	28 1	224 31½	69	61½	5	
♂ ——	27.		Noon.	42 40	27 53¼		70	67½		
		11 50 19½	2 37 43	29 12½	27 50½	224 32¼	70	59	6	
		4 55 38		11 1⅞	27 43	224 13¼	69	66	4	Cloudy.
☿ ——	28.		Noon.	43 4	27 43		70	69		
		12 18 25	3 2 24½	25 32¼	27 45	223 46½	70	68	6	
		5 7 1½	19 47 46	13 10⅙	27 38½	222 58¼	69½	68	7	Very cloudy.
♃ ——	29.		Noon.	43 30½	27 30½		70¼	69½		
		12 51 57½	3 34 21½	12 22	27 26⅙	223 24	74	70	6	Hazy.
		5 12 53½	19 57 55	15 29½	27 8½	224 5			5	
♀ ——	30.		Noon.	44 11	27 4½		71½	71		
♄ ——	31.		Noon.	45 10¼	26 19½		69¼	68		
		13 47 41	4 36 28½	9 31⅞	26 9⅙	225 3½	69¼	68	8	
☉ Aug.	1.	4 39 55	19 30 55	12 18¼	23 25½	225 39	68½	68	5	
☽ ——	2.		Noon.	48 45¼	23 13$\frac{9}{10}$		69½	69¼		
		13 6 48	3 57 30	18 54	23 6⅙	225 34¼			5	
		4 30 38	19 22 13	11 5¼	22 21⅙	225 48¼	70½	69¼	5	
♂ ——	3.		Noon.	50 7	22 8½		71	71¼		
		13 41 55		12 7⅙	22 0	225 53¼	73¼	72½	5	
		4 40 54	19 32 43	13 47½	21 27	225 53½	72	72	5	
☿ ——	4.		Noon.	51 13	21 18		73¼	74		
		13 34 53½	4 28 6	13 46½	21 12	226 14½			5	
		6 13 27	21 10 3½	33 32½	20 46½	227 21¼	77	76½	5	
♃ ——	5.		Noon.	52 7¼	20 29½					
		13 59 24½	4 58 22½	7 43½	20 28½	227 41¼	80	77½	5	
		4 34 33½	19 34 28½	15 3½	19 54½	227 56½	76½	77	3	
♀ ——	6.		Noon.	53 16	19 47½		77½	78		
♄ ——	7.		Noon.	54 28½	18 51$\frac{1}{10}$		73¼	75		
		5 44 33½	20 29 48	27 42	18 11	224 18½			5	Very cloudy.
☉ ——	8.		Noon.	55 32¼	18 4½		74½	75		
		5 28 7½		22 47½	17 44½	222 5½			5	Cloudy.
		6 38 57½	21 14 49	37 2½	17 44½	221 57¼			6	
☽ ——	9.		Noon.	56 13	17 41½		75½	76½		
		5 41 42½	20 8 34	23 54¼	17 24½	219 57½	76	74¼	4	
		6 53 24	21 20 41	38 30¼	17 24⅙	219 49			4	
♂ ——	10.		Noon.	56 58¼	17 22¼		76¼	78½		
		13 36 41½	4 1 37	21 48¼	17 21	219 13¼	77	77	5	
		5 1 44½	19 21 25	13 53½	17 17½	217 55	75½	75	3	Very hazy.
☿ ——	11.		Noon.	57 11¼	17 17½		77¼	78½		
		13 31 25	3 48 56	24 41	17 17⅙	217 22½			5	
		5 24 54½	19 38 9	17 42	17 12½	216 18½	76½	76¼	3	
		5 59 10	20 12 21½	25 6	17 12¼	216 17½			5	Hazy.
♃ ——	12		Noon.	57 36½	17 11		78	78½		
		14 27 32	4 38 3	14 9	17 11	215 37	78½	79	5	
		5 22 43	19 30 36	10 6¼	17 16½	214 57¼	79	76½	7	

1773	Time by Watch K H ″	Apparent Time H	Altitude of the ☉'s L. L.	Latitude S.	Longitude East by K	Therm. A	Therm. B	No. of Obs.	Remarks
♀ Aug. 13		Noon	57 49	17 16½		79	79		
	14 28 36	4 34 8	15 6¾	17 16	211 22	78½	79	1	
	5 42 57½		19 10¾	17 13	213 12¾	79	78	7	
☾ — 14		Noon	58 9	17 15		79	79		
	13 59 4	3 57 51	25 11	17 17	211 40	79	79	4	
	5 13 13	19 7 23	10 59½	17 42	211 31	78	77	5	
	5 37 7	19 31 36	16 26	17 43½	211 37	78	77	4	
☉ — 15		Noon	57 56	17 46		78½	80		
	14 40 58½	4 32 55½	15 26½	17 46	210 57	78½	80	5	
	6 1 27		20 49	17 41		78	79	1	
☽ — 16		Noon	58 17½	17 44		80	80		
☿ — 18	13 59 12	3 48 40	25 12	17 16	210 18	80	80	5	A little dubious
	8 30 52½	22 20 37	50 36	17 46	10 22	79½	79	5	
♃ — 19		Noon	59 12	17 47		81	80		Dollond's Quadrant
			59 13	17 46					Ramsden's Quadrant
	13 15 48	3 5 27	34 48½	17 46	210 19	81	80	6	
	8 37 14	22 27 6	51 51	17 46	10 22	79½	79½	5	
♀ — 20		Noon	59 33	17 46		79½	79		At anchor in Oaitepeha Bay, Otaheite
			59 33	17 45					
	13 18 55½	3 8 40	34 19	17 46	210 20¼	81	79½	5	A little uncertain
♄ — 21	8 47 54	22 37 42	53 37½	17 46	210 19¼	80	81	5	
		Noon	59 51	17 46		80	82		Dollond's Quadrant
☉ — 22		Noon	60 12	17 46	W. W.	81	81		All with Quadrants made by Ramsden
			60 12	17 46½	Clerke				
			60 11	17 47	Gilbert				
♂ — 24	13 53 9½	3 43 4	27 21	17 46	210 20	81	80½	5	
		Noon	60 58	17 42		76	75		The Bay S W ¾ S 6 m
	5 4 56½	18 54 26	9 19½	17 29	210 9½	75	74½	5	
☿ — 25		Noon	61 31½	17 29		76	74		Dollond's Quadrant
			61 32½	17 28					Ramsden's ditto

About five in the evening we anchored in Matavai Bay, and lost no time in getting up our clocks and instruments. On the 27th I compared the watch K with the clock B, (see p. 52.) and found it too slow for mean time on that day at noon by 13h 50′ 22″,4. Consequently allowing the rate it went at in Queen Charlotte's Sound, it will give the difference of longitude between that place and Point Venus in Otaheite 36° 13′ 10″: or, taking Queen Charlotte's Sound to be in 174 13 30 East, which is the mean result of all the Observations which have been made there both by Mr Bayley and myself, it will place Point Venus 210° 26 40½ East of Greenwich. If we reckon all the way from Drake's Island at the rate it went at when at Greenwich, before the voyage, it makes Point Venus 206 5 54 East of Drake's Island; that is, 201 49 47 East of Greenwich.

The watch was gaining here at the rate of 8″,863 a day on mean time, and was too slow for mean time at Point Venus, on ♂ August 31 at noon by 13h 49′ 47″,7: on which suppositions, and that the true longitude of Point Venus is 210 25 10, East, the following longitudes of the ship are computed.

1773.			Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L ° ′	Latitude South. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♃	Sept.	2.		Noon.	64 59¼	16 51½		76½	77		
♀	——	3.		Noon.	65 28½	16 45		66½	66½		
			15 2 50¼		14 57⅗	16 44½	208 51⅙	77½	77½	5	
♄	——	4.		Noon. {	65 50½	16 45	{	77	77		Dollond's Quadrant.
					65 51	16 44½		77	77		Ramsden's ditto.
			14 46 22½		18 50 9/10	16 44½	208 52⅙	79	78	5	At anchor in Owharre
☉	——	5.	14 49 37		18 10 1/11	16 44½	208 53⅓	79½	78½	2	harbour in Huaheine.
			15 0 26		15 24⅙	16 44½	208 54	79½	78½	3	
☽	——	6.		Noon.	66 35¼	16 44½		77½	79		
♂	——	7.		Noon.	66 52¼	16 50⅔		79	79½		
♃	——	9.	14 35 10		22 19¼	16 45½	208 24 7/10	81	81¼	4	
♀	——	10.	12 43 22	2 26 56⅓	47 32½	16 45½	208 26⅓			5	
☉	——	12.		Noon.	68 46½	16 45½				2	At anchor in Ohama-
			14 41 30	4 25 23	21 5½	16 45½	208 24 9/10	78	77½	3	neno harbour in U-
			14 44 33	4 28 31½	20 21½	16 45½	208 26⅓	78	77½	3	liatea.
☽	——	13.		Noon.	69 8 9/10	16 45½		78	77	2	
			15 12 46	4 56 54¼	13 48½	16 45½	208 25½	77	76	4	Cloudy.
☿	——	15.	15 16 56	5 1 31	12 57½	16 45½	208 26⅓	76¼	75½	5	
♀	——	17.		Noon.	70 40½	16 51½		77	78¼		
			13 44 15¼	3 26 40	35 22½	16 57¼	207 47¼	77	77½	5	
			5 51 57	19 31 44	21 5½	17 10½	207 6	77	77	5	
♄	——	18.		Noon.	70 38	17 17		78	79		
			15 7 34	4 44 37	17 14½	17 22	206 24¼	77¼	79¼	6	
			5 24 10½	18 59 19	13 29½	17 36⅓	205 54½	77		5	
☉	——	19.		Noon.	70 38¼	17 40⅓		78	79½		
			15 25 59¼	4 58 22½	14 4	17 47	205 25¼	78¼	79½	5	
			15 33 48¼	5 6 20	12 11½	17 47	205 28	78¼	79½	5	
☽	——	20.		Noon.	70 38¼	18 3½		80	81¼		Cloudy.
			5 43 42½		16 32½	18 19	203 58	79	78½	5	
♂	——	21.		Noon.	70 42½	18 22⅓		79¼	81		
			15 10 8	4 36 54	19 17⅓	18 28⅔	203 41	80½	80¼	5	
			15 30 29		14 45	18 29	203 38	80½	80¼	3	Very cloudy.
			15 43 54		11 25½	18 29	203 37	80½	80½	5	Ditto.
			15 55 45	5 22 31	8 34 9/10	18 29½	203 41	80½	80½	5	
			5 48 43	19 13 26	17 5	18 36½	203 8½	77	74¼	5	
☿	——	22.		Noon.	70 47¼	18 41 1/10		77½	77¼		
			14 40 22½	4 2 10	17 29½	18 45½	201 23⅞	77	76½	3	Very cloudy.
			6 1 46	19 20 11	18 45 1/11	19 4½	201 31	71	69¼	3	Ditto.
♃	——	23.		Noon.	70 44	19 8⅓		74½	73		
			5 53 56	19 6 35	15 39½	19 22½	199 59	74¼	72½	3	Very cloudy.
♀	——	24.		Noon.	70 47½	19 28⅓		75	74		
			14 9 21	3 19 1	37 32½	19 32¼	199 12¼	75	74¼	6	
			14 31 12½	3 40 46	32 34½	19 33¼	199 11¼	75	75	3	Cloudy.
			6 20 49½	19 25 44	20 14½	19 45¼	198 2½	75½	72½	5	
♄	——	25.		Noon.	70 47¼	19 51⅓		74½	73¼		
			13 37 39	2 39 38	46 24⅙	19 55½	197 18½	75	73½	6	

1773	Time by Watch K. H ″	Apparent Time H ′	Altitude of the ☉'s L. L.	Latitude South	Longitude East by K.	Thermom. A	Thermom. B	[illegible]	Remark
♄ Sept 25	13 53 41	2 55 39	2 51½	19 55	197 17	75	73	5	
	7 38 57	20 35 38	36 21¼	20 20½	195 56	73	71	5	
☉ — 26		Noon	70 37½	20 25		73	71		
	16 3 23½	4 56 44	15 7⅓	20 30	195 5	72½	71	5	
	6 9 22	18 59 38	14 21¼	20 35	194 15½	71½	71¼	5	
☽ — 27		Noon	70 46½	20 40		71½	71		
	15 16 8½	4 2 46	27 44	20 44	193 21⅕	72	70	5	Very cloudy
	6 8 58½	18 48 45	11 56¼	20 57⅘	191 37	72	71	4	
	6 34 30½		17 45	20 58	191 33¾			5	
♂ — 28		Noon	70 46	21 3		72¾	72½		
	9 33 39	22 6 44	56 18	21 27	189 53	72½	73	5	
☿ — 29		Noon	70 43	21 30¼		72½	72½		
	13 44 3	2 15 37	51 45	21 28	189 30			5	
	6 25 53		12 48	21 14½	187 56	73	70	4	
♃ — 30		Noon	71 26	21 11¼		71	70		
	14 42 40	3 4 48	41 18¼	21 13	187 6	71	70	4	Very hazy
	7 35 59	19 54 20	27 31⅘	21 20	186 7¼	69	67	5	Cloudy
♀ Oct 1		Noon	71 38¼	21 21⅞		70	70		
	16 11 21	4 26 40	22 43	21 24⅜	185 21	70	69	5	
♄ — 2		Noon	72 3⅓	21 20½		70½	71½		In English Road
	14 29 55		46 19¼	21 20½	184 55¼	71	74	5	Eaoowe
	8 15 17	20 28 43	35 44	21 16¼	184 49	71	71¼	5	
☽ — 4		Noon	73 6¼	21 4		71	71		
	13 59 49	2 12 22	53 37	21 4½	184 32	72½	72	3	Cloudy
♂ — 5		Noon	73 52¼	21 4	Dollond's Q.	71½	74½		In Van Diemen's
			73 52⅞	21 4¾	Ramsden's				Road at Ton-
	10 29 9½	22 41 56	65 3	21 4½	184 32½	72½	74½	6	gataboo
☿ — 6		Noon	73 52¾	21 4	Dollond's Q.	72¾	75¼		
			73 52⅞	21 4	Ramsden's				
	15 14 44½	3 27 27	37 9	21 4½	184 30⅓	72½	72½	8	Very cloudy
♃ — 7	10 31 44	22 44 38	65 48	21 4½	184 31⅞	72½	72½	6	
		Noon	74 14	21 4½		72½	73		
	15 36 24	3 49 7	32 18⅓	21 4	184 28⅞	72	72½	5	The Road [illegible] miles
	8 59 0	21 10 12	45 46¼	22 1	184 4½	73	73½	5	
♀ — 8	9 22 18½	21 33 35	50 57	22 1	184 5½	73	79½	6	
		Noon	73 38½	22 4⅙		75	76¼		
	16 57 42	5 9 29	73 47	22 6¼	184 12½	76½	75	5	
♄ — 9	8 46 6½		43 25½	22 23	184 47⅓	72½	70½	4	
		Noon.	73 37½	22 28		73½	73¼		
☉ — 10	7 43 36	19 53 53	28 36½	22 36⅔	183 47½	74	70	6	
		Noon	73 43½	22 45⅔		70½	69½		
	16 1 10	4 9 11	27 55	22 56½	183 12½	71	70	4	
	8 42 31		40 38½	23 40		69	69	4	
	9 31 36	21 36 10	51 30⅓	23 42½	182 19½	69	69	6	
	9 31 36		51 30⅓	23 51⅓	Ship's Course S by W 4 miles an h.			6	
☽ — 11	12 25 56		71 32					4	

1773.	Time by Watch K.	Apparent Time.	Altitude of the ☉'s L. L.	Latitude South.	Longitude East by K.	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
	H ′ ″	H ′ ″	° ′	° ′	° ′				
☽ Oct. 11.	15 51 38½	3 54 54	31 12⅞	24 6⅓	182 0	70¼	69¼	4	
	7 42 10		26 14⅓	25 17⅓	181 26¼	69¼	69½	5	
	8 2 43	20 3 31	30 50⅙	25 18½	181 23½	69¼	69½	6	
♂ —— 12.		Noon.	71 38	25 26½		72	70¼		
	16 34 31	4 34 21	22 19⅓	25 54	181 7	71	70¼	5	
	8 41 53	20 39 30	38 41⅗	26 55	180 32¼	69	68½	5	
☿ —— 13.		Noon.	70 24	27 13⅗		70¼	70		
	7 2 41	18 57 38½	16 20⅖	28 27	179 51½	68¼	66¼	8	
	7 7 54	19 2 54½	17 29⅗	28 27	179 53¼	68¼	66¼	5	
♃ —— 14.	6 35 45½	18 29 20	10 24⅞	29 47	179 30¼	68	65	5	
♀ —— 15.		Noon.	68 5¼	30 16		71½	68¾		
	15 26 28½	3 20 7	38 24½	30 32	179 30⅞	71	70	5	
	6 39 25½	18 32 56	11 27¼	31 16⅘	179 28¼	67½	65	6	
♄ —— 16.		Noon.	67 2¼	31 41⅕		69¼	68		
	17 15 15	5 8 42	15 29⅗	32 0⅒	179 27¼	68½	67	5	
	9 4 10	20 57 40	41 46⅒	32 37	179 27⅚	66½	66¼	5	
☉ —— 17.		Noon.	66 24¼	32 41⅘		69¼	69		
	17 35 52½	5 29 18½	11 21⅓	32 51½	179 26	68	66		
	6 42 41	18 37 16	12 51¼	33 24	179 42¼	66¼	64	6	
☽ —— 18.		Noon.	65 41¼	33 46⅔		69½	66		
	8 5 10		29 53⅓	35 40		66¼	64½	2	Cloudy.
♂ —— 19.		Noon.	63 52 :	35 58		68½	66¾		Ditto.
	7 3 34		17 32⅝	37 27	179 38¼	64½	61½	5	
☿ —— 20.		Noon.	62 23¾	37 47¼		64	60½		
	14 49 27	2 42 51½	44 9½	37 58⅘	179 23	65	61½	6	
	6 48 51½	18 39 54½	14 14¾	38 54⅘	178 48¼	62	59½	6	
♃ —— 21.		Noon.	61 27	39 6		63½	62		
	14 48 52	2 37 5½	44 51⅛	39 10¼	178 4⅛	64¼	63⅓	6	Portland S. by W. ½ N. 2 or 3 leagues.
	8 52 52½	20 35 30½	36 18⅛	40 5⅘	176 42	61½	58	6	Black-Head S. W. 2 or 3 leagues.
♀ —— 22.		Noon.	60 40½	40 14		62½	59½		
	15 32 15	3 14 55½	37 58⅙	40 25⅓	176 43	63¼	60¼	5	Cape Turnagain S. W. b. W. about 4 le.
♄ —— 23		Noon.	60 47¼	40 28½		58	53¾		Cape Turnagain W. ¼ S. about 2 leag.
	15 50 33½	3 33 13½	34 54½	40 28⅔	176 43	61	58	6	
	8 26 39	20 7 57	31 23⅔	41 27⅔	176 24	60	57¼	5	
☉ —— 24.	17 33 46	5 13 38½	16 19⅔	41 57	176 1¼	62½	62	6	Very hazy, and great sea.
☽ —— 25.		Noon.	59 34½	42 23		62	59¾		Ditto.
	7 45 47	19 23 17	23 28	42 50½	175 27	59¼	54¼	5	
	11 46 5		58 42½		☉ N. Ship's course N. W. by N. 6 miles an hour.				
♂ —— 26.		Noon.	59 51½	42 27					
	13 46 2½		58 11⅛		☉ N. 26° W.			4	

1773	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉ L L ° ′	Latitude S	Longitude East by K ° ′	Therm. A	Therm. B	[illegible]	Remarks
♂ Oct 26	17 53 20	5 29 22	13 53	42 0⅙	175 4	57	53	4	Cape Palliser N [illegible] W about 6 leagues dist.
☿ — 27		Noon	61 3	41 35		57	58		Cape Palliser W by S about [illegible] leagues
	17 14 41	4 50 43	21 15½	41 47⅙	175 4½	60¾	57	1	Cape Palliser N W [illegible] 4 leagues hazy [illegible]
	8 9 58	19 47 39	28 27	42 3⅙	175 31	57	56		
♃ — 28		Noon	60 42	42 16		59½	58	5	Hazy, and a high [illegible]
	16 51 34	4 28 37	25 31	42 20½	175 22	61	56	5	
	10 23 53	22 2 49	51 45	41 49⅙	175 51	57	52	5	Cape Palliser W [illegible] N about 10 leagues
♀ — 29		Noon	61 33	41 45		57	52		Cape Palliser W [illegible] about 8 leagues off
	17 28 56	5 6 25	18 46	41 42	175 30	58	53	6	Cape Palliser W about 5 leagues off
♄ — 30		Noon	61 25	42 13½		59	58		Very hazy and [illegible]
☉ — 31		Noon	61 40	42 19		60	57		Ditto
☽ Nov 1	9 18 47	20 51 41	41 14		174 28	55	53	6	Cape Palliser [illegible] N about 6 leagues dist.

♂ — 2 We anchored in Q. Charlotte's Sound, after beating off the Mouth of Cook's Straits, for a fortnight, in one of the heaviest gales of wind almost ever known. I got up my Clock and Instruments as soon as possible, and compared the Watch K with the Clock every day, from the 6th to the 22d, (See p. 65.) and found that the Watch was then gaining 9″,091 a day on mean time, and that it was too slow for mean time, at Queen Charlotte's Sound, by 11 h. 14′ 4″,7 on the 6th at noon. Hence, allowing the rate at which it went at Point Venus, it will make the difference of Longitude, between that place and the Sound, 36° 26′ 29″; that is, it makes the Sound 173° 58′ 41″ East of Greenwich. Allowing its Greenwich rate all the way from Drake's Island, it will place the Sound 171° 36′ 25″ to the East of Drake's Island, or 167° 20′ 17″ East of Greenwich. Lastly, it was 11 h. 38′ 17″,97 too slow for mean time at this place, June 3, at noon, and gained then at the rate of 9″,05 a day; consequently it should have been 11 h. 14′ 16″,1 too slow on November 6, at noon; but as I found it only 11 h. 14′ 4″,7, it is manifest that the Watch has erred from its true rate 41″,5 in the interval between these two times.

In computing the following Longitudes of the ship, I assumed the Watch's rate of going as above mentioned; that it was 11 h. 11′ 42″,3 too slow for mean time at Queen Charlotte's Sound, on ☽ the 22d, at noon, and that the true Longitude of the Observatory was 174° 17′ 4″ East of Greenwich, which is what my Observations, made there this time, gave it.

♃ — 25	7 59 12	19 27 8	29 36		175 22¾	64	61	5	Cape Palliser W N W 3 or 4 leagues off
♀ — 26		Noon	68 56	41 52		64½	63		Very hazy.
	7 50 21	19 19 16	28 20	43 0½	175 45½	64½	63	5	Ditto

1773.	Time by Watch K.	Apparent Time.	Altitude of the ☉'s L. L.	Latitude S.	Longitude East by K.	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
	H ' "	H ' "	° '	° '	° '				
♄ Nov. 27.		Noon.	67 32½	43 26⅓		62	62		
	17 11 38½	4 41 46	28 14	43 50⅓	176 5⅓	63½	61	5	
	7 48 48	19 20 10	28 40⅙	44 18⅓	176 29	62	54	5	
☽ —— 29.		Noon.	66 44	44 36¼		64½	55		
	17 12 31	4 45 50	27 47⅓	44 50	177 8¾	64	54½	5	
	7 51 24½	19 28 3	30 19⅙	45 34½	178 3¼	56¼	48	5	
♂ —— 30.		Noon.	65 40¾	45 49⅓		59	49		
	17 34 9½	5 12 44	23 19⅓	46 3⅓	178 35¼	60	49	5	Very cloudy.
	7 54 25½	19 35 37	31 43⅓	46 54	179 10½	56	48	5	Very hazy.
☿ Dec. 1.		Noon.	64 35::	47 4½		59	49½		Very cloudy.
♃ —— 2.		Noon.	63 26¼	48 21⅞		57	46½		Ditto.
♀ —— 3.		Noon.	63 0¼	48 56½		56½	47		Hazy.
♄ —— 4.	5 44 32	17 26 1	11 39⅔	50 4½	179 57¼	54	45	5	
☉ —— 5.		Noon.	61 59	50 14¾		62½	46½		
	17 48 50½	5 28 49	21 47⅖	50 18⅗	179 37⅕	63½	46½	6	
	8 7 49	19 47 0	33 51⅓	50 38½	179 33⅙	57½	47½	6	
☽ —— 6.		Noon.	61 26::	50 54½		65	49		Very cloudy.
	10 38 26	22 19 18	54 0⅓	52 53	180 5⅕			6	
♂ —— 7		Noon.	59 20¼	53 7½		63½	49		
	16 15 15½	3 57 40	35 53¾	53 35⅓	180 31	60	48½	6	
	7 24 47	19 9 16	28 7½	55 11½	181 7¾	49	50	6	Cloudy.
	9 23 50	21 7 51	44 22⅙	55 18⅘	181 1½	54	45	6	Flying clouds.
☿ —— 8.		Noon.	56 54⅓	55 39⅓		57½	43¼		
	16 29 53	4 16 22	32 56 1/12	56 4⅓	181 41	61	43	6	
	9 42 23	21 29 21	45 40⅖	57 44⅙	181 54⅗	55	45	6	
	10 14 5		48 52⅓	58 6¼	Ship's course S. S.			6	Hazy.
♃ —— 9.	12 54 39½		53 43 1/12		E. 6¾ miles an hour.			6	
	16 23 25½		33 12⅙	58 22¼	182 21¾	62½	43½	3	
♀ —— 10.	9 52 46	21 57 25	46 43⅙	60 31	186 38¼	51½	39½	6	Cloudy.
♄ —— 11.		Noon.	52 6	60 44¾		57½	39½		
	16 11 26	4 18 26	31 59⅓	61 11⅔	187 23¾	56½	39½	6	
☉ —— 12.		Noon.	50 9¼	62 46½		54	32¼		
	16 25 55	4 44 57	28 47	63 4	190 26¼	59	35	6	Very cloudy.
	18 52 25½	7 13 24½	12 34⅘	63 10⅖	190 56¼				
☽ —— 13.	7 5 36½	19 44 52	31 51 1/12	64 38⅙	195 45¾	42	31¾	6	
♂ —— 14.		Noon.	48 8¼	64 55⅙		51¾	34¼		
	15 50 45	4 36 54½	29 30	65 12½	197 32	51	35	6	
♃ —— 16.		Noon.	48 54::	64 15¼		52	33		A great fea.
♀ —— 17.	11 23 57½		48 10 11/12	64 35	Lying too, Ship's			6	
	12 58 41½		43 24⅕		Head N. Eaftward.			6	
	15 35 11½		28 23 1/12	64 31	204 59¼	56	33	6	
☉ —— 19.		Noon.	48 27½	64 47⅘		57½	34		
	14 49 36		30 38⅙	64 49⅘	211 24			6	
☽ —— 20.		Noon.	47 18	65 58		55	33		
♂ —— 21		Noon.	46 29::	66 48		55	34		Very foggy.
☿ —— 22.		Noon.	45 50	67 26⅓		50	33		Very good.

1773	Time by Watch H	Apparent Time H	Altitude of the ☉'s L L	Latitude S	Longitude E ft by K	Thermom A	Thermom B	No of Obs	Remarks
☿ Dec 22	5 51 42	20 11 26	33 51¾	67 13	221 34	41	31¼	6	Cloudy
♃ — 23		Noon	46 4	67 12¼		53	35		
♀ — 24	14 46 55½	5 8 42	26 15¼	67 5	223 4	53	33	6	
	16 9 43	6 33 2	18 11	67 3	223 26½	55	33	10	
♄ — 25		Noon	46 52	66 21½		50	34		
☉ — 26		Noon	46 57	66 14½		56	37		
	14 52 4½	5 24 29	24 4⅘	66 6	226 1½	58	35	6	
	5 17 54½	19 52 11	32 23¾	65 51½	226 35⅞	47	36	5	
☽ — 27		Noon	47 16	65 53		53	35		
	14 12 54¼	4 46 57	28 28¼	65 46¼	226 35¾	52¼	34	6	
☿ — 29	14 41 10½	5 9 29	26 6¼	62 10	225 29¼		34½	6	
♃ — 30	4 55 27¼	19 17 59	29 24⅛	59 56	224 47⅞	47	33	6	
♀ — 31		Noon	53 15¾	59 40		54	35½		
	15 16 36	5 39 23	22 11¼	59 38	224 58¼	63	35	6	
	5 54 19½	21 14 40	43 21	59 17½	223 54⅞	50½	34¾	6	
1774 ♄ Jan 1		Noon	53 39	59 11¼					W W
			53 39	59 11⅓		61¼	36¼		Mr Gilpin
	15 54 33	6 13 10	17 43⅝	58 48	223 32¼	59¼	37¼	6	
	3 22 16	17 38 47	16 31⅓	58 4	223 5¼	51¼	34½	6	
☉ — 2		Noon	54 47¾	57 58		61	38¾		
	8 4 37	22 10 23	50 20	56 52¼				6	
☽ — 3		Noon	55 54	56 46		55	36		
	14 13 55	4 17 36	32 45⅙	56 27	220 6⅞	61¼	39	6	
♂ — 4		Noon	57 39	54 55¼		59¼	46¼		
	6 9 56	20 21 42	38 38½	53 57	222 5	51¼	47	5	
☿ — 5		Noon	58 44	53 43⅓		55¼	46¾		
	6 11 9	20 29 32	40 3⅗	52 23	224 11¼	50¼	46	6	
♃ — 6		Noon	60 21	51 59¾		55⅓	47		
	14 34 28	4 55 18	27 12	51 42¼	224 50¼	55	50	6	
	5 27 1	19 53 10	34 45¼	50 47	226 16	52¼	47¼	6	
	6 17 7	20 43 27	42 30	50 45	226 18¼			6	
♀ — 7		Noon	61 37	50 36		61⅓	50		
	14 28 15	4 57 48	26 39⅞	50 19¼	226 55¼	66⅓	50¼	6	
	6 13 55	20 48 47	43 40⅓	49 19	228 36	56	47¼	6	
	6 29 19	21 4 14	46 2¼	49 19	228 36¼			6	
	6 59 11	21 34 16	50 27⅙	49 17	228 39¼			6	
♄ — 8		Noon	62 58	49 7⅓					By W W
			62 57	49 8		61¾	49¼		By Mr Gilpin
	14 15 38	4 54 47	26 58⅓	48 59	229 43	65¾	50	8	Cloudy
	5 5 7	19 52 56	34 49	48 25⅝	231 58¼	54	49	6	
☉ — 9		Noon	63 40	48 17		61	61⅓		
	4 23 22	19 22 4	29 34	48 8¼	234 50⅛	57	49¼	4	Cloudy
☽ — 10		Noon	63 41	48 7¼		64	52¼		
	4 17 6	19 23 31	29 42	47 50¼	236 54	54¼	48¾	6	
♂ — 11		Noon	63 48¼	47 51¼		62	50		

1774.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♂ Jan. 11.	14 41 49	5 53 23	17 1⅛	48 19¼	238 16½	65	50	6	
	4 8 17¼	19 24 51	29 49 1/11	49 13¼	239 34½	57	53	6	
☿ —— 12.		Noon.	61 56¼	49 34		63½	56		
	13 58 50	5 18 33	22 50½	50 0¼	240 24½	65	55	6	
♃ —— 13.		Noon.	59 19:	52 1½		63¼	53½		Foggy.
♀ —— 14.		Noon.	57 15:	53 55½		63¼	51¼		Ditto.
	13 24 11½	4 39 49½	28 36¼	54 27	239 39½	64½	54½	6	Ditto.
♄ —— 15.	4 49 6	20 6 23¼	34 38¼	55 59⅔	240 17	55	48	6	A great sea.
☉ —— 16.		Noon.	54 30:	56 18⅓		61¼	47¾		Ditto, and hazy.
	14 18 45	5 37 39	20 16½	56 50½	240 44	63¼	49	6	
	4 17 58¼		30 22¼	58 7	241 16⅛	52	43½	6	
☽ —— 17.		Noon.	52 3:	58 34		60¼	41½		Foggy.
	12 52 8		30 53 1/11	58 58¼	241 57¼	58⅔	41	6	
♂ —— 18.	13 3 46	4 32 1	28 18⅔	61 6	243 18⅛	56½	41½	6	
☿ —— 19.	2 18 54¼	17 48 49	16 26⅜	62 28	243 53½	51	47½	6	
♃ —— 20.		Noon.	47 25¼	62 34½		60	40		
	12 53 59¼	4 21 43	28 51¼	62 37⅔	243 23⅔	61½	38	6	
♀ —— 21.	8 46 51		47 16¼	62 26	☉ N. W. ¼ N. at 2d Observ. Ship's course E. ½ N. 4¼ miles an hour.			4	
	9 41 19		45 42⅓					6	
	12 44 20	4 13 7¼	29 34½	62 20⅞	244 1	59	38	10	
♄ —— 22.	4 0 14	19 49 3	29 38⅔	62 18½	248 57	47	37	6	
☉ —— 23		Noon.	46 57½:	62 22¼		55¼	38½		Cloudy.
☽ —— 24.	4 47 14	20 41 44	33 25	65 15⅙	250 34½	54	41		
♂ —— 25.		Noon.	43 26¼	65 24⅜		60½	42¼		Hazy.
	14 35 14	6 28 46	14 12¼	65 45	250 22½	62	39¼	6	
	3 3 2	18 55 54	22 37½	66 25	250 15¾	50		5	
☿ —— 26.		Noon.	42 1:	66 35½		58¼	40		
♃ —— 27.		Noon.	40 29½	67 51¾		60	37½		
♀ —— 28.	3 13 8	19 12 10	22 58 5/11	69 41	252 3½	46½	34½		
	3 52 58	19 52 6	26 17⅞	69 42⅔	252 5			4	
♄ —— 29.		Noon.	37 51¼	69 58½		53	36½		
	12 42 32	4 44 23¼	13 3½	70 18	252 47½	63		5	
☽ —— 31.		Noon.	38 4::	69 13		58¼	34		
	3 32 17	19 40 27	25 0 1/12	68 13	254 34⅞	58¼	35	6	
	3 44 3	19 52 13	26 2⅜	68 12¼	254 34⅙			3	
	7 41 59		38 57					3	Latit. by two Alt. 68° 0′¼ S.
♂ Feb. 1.			38 59::	68 1¼		58½	35		
	8 19 58		38 47½					5	
	•5 24 18		34 27⅙	☉ N. Ship's course N. E. by N. 4 miles an hour.				3	
	7 31 17		39 30⅞					4	
☿ —— 2.		Noon.	39 35½	67 7½		54	37		
♃ —— 3.		Noon.	40 1	66 25		57	35		

1774	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉'s L. L.	Latitude S.	Longitude East by I	Thermom. A	B	No of Obs.	Remarks
♃ Feb 3	12 34 2	4 48 25	21 8	66 18					
	3 11 51	19 39 35½	24 50½	65 46⅙	258 47⅛			5	
♀ — 4		Noon	40 26½	65 41⅓	259 40	49	34	5	
	11 42 3	4 10 2	25 47⅓½	65 36		58¼	34½		
	2 55 13	19 22 29	23 16⅓	64 28½	259 44⅓	61	34⅓	6	
♄ — 5	11 48 41	4 15 50½	25 26⅓	63 58⅓	259 36	49	37½	6	
	5 28 34		37 10⅓		259 35⅛			6	
☉ — 6		Noon	41 38	63 53⅞				5	
	3 21 48	19 55 23½	25 57⅓	61 31½		60	39¾		
☽ — 7		Noon	44 8	61 5½	161 17½	46	37	5	
	12 35 24	5 10 30½	19 13$\frac{0}{10}$	60 30½		55	40		
☿ — 9	3 40 32	20 17 22½	31 23⅓	54 2½	261 41¾	60½	38	5	Cloudy & bad horizon
♃ — 10		Noon	50 39½	53 36⅓	262 15	54½	44	5	
	12 18 45½	4 55 14	20 59⅓	53 9		60	47		
♀ — 11	8 8 39				262 12	64	47	5	
	10 20 50		50 53½	51 33½	☉ N 76 W at 2d obs. Ship's course N ½ E 6½ m an h			4	Strong wind, and a high sea
			37 20⅓					4	
	13 8 50	5 52 52½	11 43	51 12⅝	264 17½	62¼	49½	6	A high sea
♄ — 12	3 10 47	19 51 14	28 35½	50 23⅓	263 58⅞	53½	47⅓	4	Cloudy
		Noon	53 21½	50 15		59½	47¾		
	13 44 16	6 27 32	6 6½	50 11	263 57	64⅓	49	4	
☉ — 13		Noon	53 4	50 1[illegible]		60½	52		
	11 49 35½	4 27 49½	24 44½	50 26¾	262 43½	64⅓	51⅓	6	
☽ — 14	12 14 28	4 55 9	20 14	49 28	263 21¾	68	51⅓	6	
	3 6 42	19 45 25½	26 42⅓	48 55	262 53⅓	59⅓	51	6	
♂ — 15		Noon	53 41	48 55		63¾	54		Thick fog
☿ — 16		Noon	54 30½	47 45		59⅓	56		Foggy
	3 2 4½	19 50 3	27 25⅓	46 32½	265 15	60	53	6	Very hazy
	6 25 10								
♃ — 17		Noon	54 10½		☉ N Ship's course N 4 m an ho 155			5	Ditto
			55 37½	46 17⅞					Ditto
	7 38 55		55 10⅓	46 15½	By two Altitudes			5	Ditto
♀ — 18	3 11 37	20 0 19	29 21⅗	44 37⅓	265 20½	55½	52	6	A high sea
		Noon	57 23½	44 10⅓		56½	50⅓		Ditto
	10 17 0		38 53⅙	43 52½	265 6½			6	Ditto
♄ — 19	3 19 57	20 3 7	30 6½	42 24½	264 5	58	55	4	Cloudy
		Noon	59 6⅓	42 5½		60⅓	58½		
	12 1 8	4 44 47	21 20½	41 43⅓	264 12½	63⅓	59	6	
☉ — 20	3 20 24	20 6 20½	30 46½	40 21	264 47½	64	61	6	
		Noon	60 51⅓	39 59½		66½	66		
	10 35 31	3 22 13½	36 47⅓	39 43⅙	264 59	69	66	10	
☽ — 21	2 1 2	18 49 27	16 9⅓	38 21	265 25			6	
		Noon	62 35½	37 53⅘		68½	67½		
	11 42 20	4 31 31	23 46½	37 31½	265 21½			10	
♂ — 22	2 43 43		23 53½	36 24	264 52	70½	68½	5	
		Noon	63 57	36 10⅓		72½	69		

1774.	Time by Watch K.	Apparent Time.	Altitude of the ☉'s L. L.	Latitude S.	Longitude East by K.	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
	H ′ ″	H ′ ″	° ′	° ′	° ′				
♂ Feb. 22.	3 7 23	19 45 31¼	26 54½	36 34¼	262 51½			5	
☿ —— 23.		Noon.	63 4	36 41¼		71½	69		
	12 10 47	4 46 34	20 24⅙	36 48	262 1¼		69	5	
	2 32 41		18 26¼	37 16½	261 13¼	69	71	6	
♃ —— 24.		Noon.	61 56	37 27½		73⅓	71		
	4 6 24		34 25¼	37 49½	258 42⅞	72	70	6	
♀ —— 25.		Noon.	61 7¼ :	37 53⅔		71	69		Cloudy.
	12 37 30		17 45½	37 45	258 18½	71½	68½	6	
	3 30 27¼	19 48 15¼	26 43¾	36 53½	257 46¼	69	65½	6	
♄ —— 26.		Noon.	61 59	36 39⅔		67¾	65		
	13 27 22	5 43 19	8 24 1/10	36 11	257 18¼	70½	64¼	5	
	4 42 55	20 57 26	40 25¼	35 4	256 56½		67	5	
☉ —— 27.		Noon.	63 22¼	34 54		68¼	68½		
	12 31 9	4 45 33	19 53 1/11	34 33⅔	256 54½		68	6	
	3 40 7	19 53 54	27 59½	33 24¾	256 44¾	70¼	69⅔	6	Very cloudy.
☽ —— 28.		Noon.	64 44¼	33 9		72	71½		
	3 13 11	19 25 19¼	21 58½	32 27	256 20			5	
♂ March 1.		Noon.	65 14½	32 17		74¼	71¼		
	12 55 24	5 8 2	14 52⅘	32 6	256 26½	76¼	73⅔	5	
	3 37 46	19 51 11	27 20½	31 21⅔	256 38			5	
☿ —— 2.		Noon.	65 54½	31 13⅔		74	74		
	12 38 5	4 52 9	18 5½	31 5¼	256 47¼		74	6	
	3 39 40¼	19 55 13	28 5⅛	30 39½	257 9	73½	71	5	
♃ —— 3.		Noon.	66 8½	30 36¼		75	74		
	12 47 53		15 2	30 26½	257 41½	78⅔	75	3	
	3 23 53	19 42 49	25 25	30 6	257 59⅛	75¼	74	5	
♀ —— 4.		Noon.	66 24	29 58⅖		75¾	74½		
	12 18 35	4 38 17	20 45½	29 52½	258 10	78¾	76	5	
	2 44 9¼	19 4 28	16 55⅓	29 46	258 18½			5	
♄ —— 5.		Noon.	66 15	29 44⅔		77½	75		
	12 34 46	4 55 4	16 57⅛	29 41½	258 17¾			6	
	3 35 43¼	19 55 2	27 39⅜	29 30½	258 2¼			6	Cloudy.
☉ —— 6.		Noon.	66 14½	29 21⅓		76	74		
	12 57 3¼	5 14 52	12 30 1/12	29 11½	257 39	76¼	73½	6	
	2 46 46	19 2 0	16 4⅓	28 36	256 59⅞			6	Cloudy.
☽ —— 7.		Noon.	66 53	28 19⅘		75¼	74⅛		
	13 3 12¼	5 16 24	11 59¼	28 2	256 28½		74	5	
	2 42 25	18 51 26	13 37½	27 16¼	255 25	76	73¼	6	
♂ —— 8.		Noon.	67 45¼	27 3 9/10		76	75¼		
	3 39 56¼		24 20	27 6	253 19½		74½	6	
☿ —— 9.		Noon.	67 19	27 6½		76¼	77		
	11 55 59	3 54 25	29 43½	27 7	252 44	76½	76½	6	
♃ —— 10.		Noon.	66 53	27 9⅓		76	76¼		
	11 37 17	3 27 46¼	35 17½	27 9⅛	250 43⅛	76	76	6	
	5 8 6	20 55 34	40 4 9/10	27 10⅔	249 56¾	76	75	6	
♀ —— 11.		Noon.	66 27¼	27 10⅞		76½	75		

1774	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉'s L L	Latitude South	Longitude East by K	Thermom. A	Thermom. B	[illegible]	[illegible]
7 March 11	5 20 50	5 6 47½	13 24½	27 11½	249 33½	76	75¼	6	
♄ — 12		Noon	65 57½	27 17½		75½	75¼		
	3 53 16	19 37 20	22 50½	27 11	249 2	74½	75¼	2	Off the South Point of Easter Island
☉ — 13		Noon	65 45	27 6½		76	74		Off the North Point of ditto
☽ — 14		Noon	65 20	27 7		74½	74		At Anchor off the N W side of ditto
☿ — 16	10 43 8	2 27 20	46 53	27 8	249 3½	75½	74	6	
		Noon	64 33½	27 7		74	75		Off the N W side of ditto
	11 38 51	3 23 3	35 4½	27 7	248 57½			6	
	3 33 8	19 15 41½	17 22½	26 66	248 32½	75	75	6	
♃ — 17		Noon	64 28½	26 48		77½	77		
	12 37 27	4 18 17	23 5	26 38½	248 5½	77	76¼	5	Clouds
	3 11 41	18 50 34½	11 43½	26 16	247 34½	76¼	75½	5	
♀ — 18		Noon	64 48½	26 4⅘		78	76		
	11 41 57½	3 20 42	35 31½	26 0	247 31			5	
♄ — 19	5 3 15	20 40 28	35 54⅙	25 6½	247 7½			6	Very cloudy
		Noon	65 37½	24 51½		77	77		
	11 23 32	3 0 6½	40 6⅞	24 41½	246 57	77½	76	[illegible]	Clouds
☉ — 20	5 8 31	20 42 48	36 45½	23 21½	246 20½	77½	77	5	
		Noon	67 4½	23 1½		77	77		
☽ — 21	5 20 24	20 51 18½	39 4	21 23⅙	245 28	77	77½	[illegible]	
		Noon	68 38½	21 3⅓		78½	77		
♂ — 22	11 40 17	3 10 15	38 51½	20 48⅓	245 13½			6	Clouds
		Noon	69 57	19 21		78	76		
	11 37 20½	3 3 31	40 39	19 13	244 14	76	75½	10	
☿ — 23	5 36 20	20 58 30	41 17⅙	18 18½	243 12⅙	77	76½	5	
		Noon	70 44½	18 9½		79	77½		
♃ — 24	5 39 14	20 57 6	41 7⅙	17 16	242 5½	77	75½	6	
		Noon	71 24	17 6⅓		78½	77		
	13 21 30	4 38 9½	18 57½	16 55	241 46½	79	77	5	
♀ — 25	4 2 52	19 16 18	17 38½	16 18½	240 56½	78½	76	6	
		Noon	72 5⅓	16 1½		79	78		
	13 3 0½	4 14 45½	24 31	15 51⅓	240 30½	79½	76½	6	
♄ — 26	3 51 10	18 59 12	13 36⅓	15 4½	239 33½	78	78	6	
		Noon	72 57½	14 45½		78½	78½		
	13 55 31	5 1 9½	13 31⅞	14 28½	238 55½	79½	78	5	
☉ — 27	4 25 48	19 27 28	20 27½	13 29½	237 55⅙	78½	78½	6	
		Noon	74 7	13 12½		79½	80		
	13 32 29	4 32 0	20 37½	12 57½	237 24½	80	79	6	
☽ — 28	4 2 15		13 20½	12 3½	236 18½	79	78½	6	
		Noon	75 10½	11 45½		80½	80		
	13 30 37		22 36⅓	11 32½	235 30	80	80	6	
♂ — 29	4 13 3	19 2 40	14 37⅙	10 38½	234 49½	79½	79¼	6	
		Noon	76 12½	10 20½		81	81		
	14 8 54	4 55 50	15 0	10 10½	234 8½	81	80¼	5	

1774.	Time by Watch K.	Apparent Time.	Altitude of the ☉'s L. L.	Latitude South.	Longitude East by K.	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
	H ′ ″	H ′ ″	° ′	° ′	° ′				
♂ March 29.	4 40 5	19 21 52	19 20⅔	9 34	232 49½	80	79	6	
☿ —— 30.		Noon.	76 47	9 22½		80¼	80¼		
	13 48 32	4 27 21	21 58¼	9 21¼	232 4	80	80	6	
	5 0 41	19 33 45½	22 11⅞	9 18½	230 36½	80¼	80	6	
♃ —— 31.		Noon.	76 28½	9 17¼		80¼	80½		
	14 8 15½	4 38 38	19 9¼	9 20¼	229 55¼	80¼	80¼	5	
	4 33 1	18 58 33½	13 31⅔	9 27	228 41¼	80⅔	80¼	5	
♀ April 1.		Noon.	75 53	9 29⅔					
	13 23 45	3 47 4	31 33⅔	9 30	228 7	80⅔	81	5	
	4 37 24	18 55 56	12 48⅔	9 29	226 53½	80	79¼	5	
♄ —— 2		Noon.	75 30¼	9 28½		81	81¼		
	13 12 55	3 29 14	35 45¾	9 29	226 19½	81	81	4	
	4 42 17	18 53 54½	12 14⅓	9 32	225 7	80¼	80¼	5	
☉ —— 3.		Noon.	75 4	9 32½		81¼	81¼		
	13 12 1	3 21 41	37 27¼	9 32¼	224 37½	82	81¾	5	
	4 57 48½	19 2 33	14 15⅔	9 32½	223 22¼	81¼	81¼	5	
☽ —— 4.		Noon.	74 41	9 32¼		82	82¼		
	13 51 49	3 54 11	29 32 9/10	9 32½	222 45⅞	82	82¼	5	
	5 20 51		18 11⅚	9 33¼	221 42¼	82	81¼	5	
♂ —— 5.		Noon.	74 17	9 33½		83	83		
	4 59 0	18 52 22	11 40⅓	9 21	220 24¼	82	81¼	5	
☿ —— 6.		Noon.	74 8	9 19¾		83	83¼		
	14 47 33	4 38 12	18 47	9 30	219 45¼			1	
	5 1 56½	18 51 14	11 17⅓	9 36¼	219 23¼	80	77¼	5	
♀ —— 8.	14 25 14½	4 12 45	24 38	9 55¼	218 54¼	84	82¼	5	At anchor in Resolution Bay, in the island Ohitahoo, one of the Marquesas.
♄ —— 9		Noon.	72 20½	9 55¼	No Dip.		85		
	13 9 50	2 57 32	42 18¼	9 55¼	218 55½	84	84¼	5	
☉ —— 10.		Noon.	71 57⅓	9 55¼	No Dip.	83¼	84¼		
	12 49 24	2 37 12	46 49⅛	9 55¼	218 55	83¼	84½	5	
☽ —— 11.	12 50 11	2 37 54½	46 40 9/10	9 55¼	218 53	85	85¼	6	
♂ —— 12.	14 48 13½		18 51⅚			80¼	81¼	6	
	5 20 13	19 5 26½	14 4	10 34¼	218 11¼	81¼	79	5	
☿ —— 13.		Noon.	69 56¼	10 55¼		83¼	82¼		
	14 37 16	4 21 1½	21 51⅓	11 15½	217 48¼	83	82⅔	5	
	5 26 4	19 7 52	14 15⅚	11 54⅙	217 18½	81¼	81¼	5	
♃ —— 14.		Noon.	68 5¼	12 24⅓		83	82¼		
	14 34 0	4 13 28	23 9⅔	12 40	216 43	83	83	5	
	5 35 21	19 11 56	14 48⅔	13 20	215 58¼	81⅔	82⅓	5	
♀ —— 15.		Noon.	66 27	13 41½		83	83		
	14 2 41	3 36 34	31 9⅓	13 53½	215 17⅛	83	82¼	5	
	5 48 56	19 20 26	16 26⅔	14 17⅞	214 40¼	82¼	82	5	
♄ —— 16.		Noon.	65 29	14 17⅞		82¼	83¼		
	14 26 0½	3 54 56	26 42	14 18	214 2	82¼	83¼	6	
	6 7 1	19 33 38	19 19¼	14 28⅔	213 26¼	82	81¼	5	
☉ —— 17.		Noon.	64 59¼	14 26⅓	Taonkaa from N. 62° W. to S. 66° W. Off shore abt. 2 m.				
	14 47 10½	4 11 28½	22 43⅓	14 29⅔	212 51			8	Off the opening into Taonkaa.

1774	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉ L L	Latitude S	Longitude East by K ° ′	Therm A	Therm B	[illegible]	Remarks
☉ April 17	5 41 34	19 5 16	12 36	14 34	212 41	82	81	4	Off the east end of ... then King George's Island
☽ — 18		Noon	64 18¼	14 56					
	13 40 38	3 3 8	37 35½	15 5	212 23			10	
	5 36 45	18 57 9	10 23½	15 33	211 50	81½	81	5	
♂ — 19		Noon	63 5	15 38¼		82	82		Amongst the ... Isles
	14 51 14	4 9 13	22 35	15 41	211 13¾	82	82	6	Ditto
☿ — 20	14 37 29	3 51 0	26 7	16 17	210 23¼	80	79	6	Cloudy
	5 59 36	19 9 38	12 34	17 12¾	209 13	81	81	5	
♃ — 21		Noon	60 30	17 32¼		8[illegible]	8[illegible]		

Next morning we anchored in Matavai Bay, Otaheite; in the afternoon I got my Clock and Instruments up on the usual spot, Point Venus, and on the 23d, and every day afterwards, until May 9th, I compared the Watch K, and Clock together, see p. 94. Hence I found that the Watch was 13 h 4′ 39″,2 too slow for mean time at Point Venus on ♄ April 23 at noon. Consequently, it gives the difference of longitude, this time, between Queen Charlotte's Sound and Point Venus 33° 59′ 22″; that is, it makes the latter place 208° 16′ 26″ East of Greenwich. Reckoning according to its Greenwich rate all the way from England, it places Point Venus 194° 24′ 21″ East of Drake's Island, or 190° 8′ 13″ East of Greenwich.

It appears farther, from p. 52, that the watch was 13 h 49′ 17″,5 too slow for mean time at Point Venus, on August 31 1773 at noon; and that it was then gaining at the rate of 8″,863 a day on mean time. It ought therefore to have been too slow for mean time on ♄ April 23 at noon by 13 h 16′ 1″,3, instead of 13 h 4′ 39″,2, and of course the watch has erred 10′ 33″,1 = 2° 38′ 16″, in longitude between these two days.

Lastly, it was now gaining 11″,833 a day on mean time, and was 13 h 1′ 9″,56 too slow for mean time at Point Venus on May 9 at noon; and on these suppositions, and that the true longitude of Point Venus is 210° 25′ 10″ East of Greenwich, the following longitudes of the ship are computed.

1774	Time by Watch K	Apparent Time	Altitude of the ☉ L L	Latitude S	Longitude East by K	Therm A	Therm B	[illegible]	Remarks
☉ May 15	15 3 23	4 1 31	20 38	16 42⅓	208 52	82	83	6	
☽ — 16		Noon	54 0	16 44	Dip 2	83	84½		In a boat and very uncertain
	14 9 41	3 7 37	31 27½	16 42½	208 53¾	84	84½	6	
	14 16 46	3 14 39	30 5½	16 42	208 52	84	84		
♂ — 17		Noon	53 45½	16 42½	No Dip	82	83	5	
☿ — 18	15 19 56	4 17 40	17 1	16 42½	208 53½	85	83		Very certain
		Noon	53 31	16 43½	No Dip	83	82½	8	
♃ — 19		Noon	53 19¼	16 42		81½	80		A little uncertain
♀ — 20	15 6 38	4 3 55	19 43	16 42½	208 53	83	81	10	At Owharre Harbour, near the N. part of it
		Noon	53 6	16 42⅓		82	82		
	15 1 35	3 58 39	20 43⅓	16 42½	208 53	83	82		
	15 14 56	4 12 1	17 56⅛	16 42⅓	208 53½	83	82	3	
♄ — 21	15 15 51	4 12 30	17 44¼	16 42¼	208 51	84	82	5	
☽ — 23		Noon	52 26	16 51		81	83	8	
♃ — 26		Noon	51 54	16 45	No Dip	80	83		
♀ — 27		Noon	51 43½	16 45½	No Dip	80	79		

1774.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude South. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No of Obs.	Remarks.
♀ May 27.	13 43 46⅓	2 37 2¼	35 42 1/11	16 45¼	208 25¼	80½	80⅓	6	
♄ —— 28.		Noon.	51 33⅓	16 45⅓	No dip.	80	80¼		
	13 5 56⅓	1 58 50	41 47¼	16 45½	208 24 9/10	79¼	80¼	6	
☉ —— 29.	14 53 12	3 45 55¼	22 32⅓	16 45¼	208 26⅓		81¼	6	
☽ —— 30.	15 28 52	4 21 7¼	15 13¼	16 45¼	208 24⅓	81½	82¼	5	
♂ —— 31.	14 38 56	3 30 52¼	25 20⅓	16 45¼	208 24⅓	81½	80⅔	6	
☿ June 1.	14 13 25	3 5 2	30 11⅓	16 45¼	208 24¼	82	81¼	5	
♃ —— 2.	14 29 53	3 21 12	27 3⅓	16 45¼	208 25⅓	82	81	6	
♀ —— 3.	14 17 37	3 8 37	29 22	16 45¼	208 25 1/11	83	81¼	5	
♄ —— 4.	14 19 27	3 8 54¼	29 16¼	16 42⅓	208 8⅓		81¼	6	Bolabola N. 3° ½ E. West End of Otaha N. 58° E.
	8 12 3	20 58 30⅓	30 34⅓	16 44⅔	207 27¼	81½	82¼	10	
☉ —— 5.		Noon.	50 29⅓	16 48		81½	82¼		
	14 27 2	3 12 16	28 31	16 47⅓	207 23¼	82	83	5	
	7 17 54	19 59 52	19 4⅓	16 54¼	206 25¼	82	81⅓	6	Very hazy.
☽ —— 6.		Noon.	50 21	16 49⅓		82¼	82¼		Hazy, & bad horizon.
♂ —— 7.	14 7 1½	2 41 32	33 37⅓	17 14½	204 40⅓	80½	80	2	Very cloudy.
	8 2 28½	20 34 56	25 30⅓	17 31½	204 14¼	80	79¼	6	
☿ —— 8.		Noon.	49 26¼	17 32½		81	80¼		
	15 22 51½	3 54 28	19 45⅓	17 33	204 3⅓	82	82	4	
	6 52 23	19 21 57¼	10 48¼	17 37⅓	203 37	83	79	6	
♃ —— 9.		Noon.	49 16	17 38⅓		81½	81		
	16 3 13	4 31 32	12 7	17 39⅓	203 19⅓	82	81	5	
	8 53 46	21 19 38¼	33 17	17 47⅓	202 47⅓	79	76⅔	6	
♀ —— 10.		Noon.	49 1 ::	17 48		78½	77¼		Very cloudy.
	16 20 13	4 45 54	9 17⅓	17 49⅔	202 45¼	78⅓	77¼	6	Ditto.
	7 13 17	19 37 25	13 47⅛	17 51	202 26¼	78½	77	6	
♄ —— 11.		Noon.	48 48⅓	17 55¼		78	77¼		
	15 43 10	4 4 40	17 21⅛	18 0⅓	201 49⅓	77¼	77	6	
☉ —— 12.		Noon.	48 31	18 10⅓		75¼	75		
	9 31 50	21 40 37¼	35 48	18 46	198 49	76⅓	78⅓	3	
☽ —— 13.		Noon.	47 51	18 45⅓		77¼	80		
	15 41 33	3 47 42	20 12⅛	18 46¼	198 11	78	77¼	3	Cloudy.
	15 46 1	3 51 48	19 24¼	18 46⅓	198 5¼	78	77¼	6	Ditto.
	15 57 57	4 4 1	17 0 1/11	18 46⅓	198 7⅓	78	77¼	6	Ditto.
	7 18 46	19 21 16¼	10 1	18 40⅓	197 17⅓	76	75¼	6	
♂ —— 14.		Noon.	47 57⅓	18 35⅓		76	75¼		
	16 6 29	4 7 45	16 20⅓	18 34⅔	197 4¼	77¼	76¼	6	
	7 11 9	19 12 12	8 10⅓	18 32	197 3¼	76¼	75¼	6	
☿ —— 15.		Noon.	48 2¼	18 27⅓		77	75¼		
	16 8 51¼	4 9 4	16 8⅓	18 25⅓	196 54¼	76⅓	75⅓	5	
	8 3 33	20 1 46¼	18 19⅓	18 20⅓	196 28½	76¼	74¼	6	
♃ 16.		Noon.	48 16¼	18 11⅓		75¼	75¾		
	15 56 7	3 54 58	19 9⅛	17 59⅓	196 40⅛	76	75¼	3	
	7 28 59	19 23 20	10 43¼	18 0⅓	195 36½	79	73⅓	6	
♀ —— 17.		Noon.	48 22¼	18 2⅓		75	75		

1774	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉ & L L	Latitude S	Longitude East by K	Thermom A	Thermom B	of Obf	Remarks
♀ June 17	15 14 50	3 7 14	28 7 1/3	18 5	195 9	75 1/2	74	6	
	15 25 51	3 18 0	26 8 1/6	18 5	195 5 1/2	75	74 1/2	6	
	7 33 58 1/2	19 21 44	10 13 2/3	18 16	194 3 1/4	74	73	6	
♄ — 18	7 50 4	19 31 30	12 11 1/3	18 22 1/4	192 35 1/4	75	74	5	
☉ — 19		Noon	47 57 1/2	18 24 9/10		75 1/2	77		
	16 23 46	4 2 57	17 15 1/2	18 27 3/8	192 4	76 1/3	76	7	
	9 54 18	21 28 29 1/2	33 43 7/8	18 45	190 52 7/8	76	76 1/4	6	
☽ — 20		Noon	47 32	18 49 1/2		77	77		
	17 5 49	4 37 52	9 56 3/8	18 59	190 22 7/8	76 1/2	76 1/4	10	
	8 17 24	19 48 13	15 16 1/3	18 55	190 8 1/4	75 1/2	76	5	
	9 7 35	20 38 11	24 52 3/8	18 54 1/2	190 5 1/6	77	78	8	
	11 7 30	22 37 28	42 53 2/3	18 55 1/3	189 55 7/8	78	78	6	
♂ — 21	Ramsden's Q	Noon	47 24 7/12	18 56 3/8					
	Dollond's Q		47 24 1/12	18 57 1/3		78	78		Off Savage Island
	14 47 31	2 17 17	35 43 1/4	19 1 1/2	189 54			6	
	16 5 4	3 34 48	22 24 1/12	19 2	189 54	79 1/2	78	6	
	8 14 28	19 41 49 1/2	13 46	19 20	189 22 3/8	77	76	6	
☿ — 22		Noon	46 58 1/4	19 23 1/6		78	77 1/2		
	16 41 23	4 7 28	15 51 1/4	19 27 1/3	189 5 1/4	78 1/4	77 1/2	6	
	8 6 50	19 28 43	10 55 3/8	19 43	188 6 1/2	77 1/3	76	6	
♃ — 23		Noon	46 32 1/4	19 49 1/3		78	77 1/2		
	16 37 41	3 57 14 1/2	17 33 1/12	19 57 1/4	187 33 1/4	77 1/4	77 1/2	6	
	8 12 43	19 27 13	10 17 2/3	20 24 1/4	186 22	78	76 1/4	6	
♀ — 24		Noon	45 58	20 24 1/4		79	79		
	17 10 37 1/2	4 22 42 1/2	12 21 1/2	20 19 1/6	185 48 1/4	79 1/4	78	3	
	8 43 45	19 54 2	15 43 9/10	20 12	185 24 7/8	77	78	5	
	8 43 45		15 43 9/10		O N 46 [illegible]			5	
♀ — 25	13 22 59		45 19 1/12	20 20 1/3	Ship's course S by W 3/4 W 4 miles an hour				
	14 27 3		40 2 1/2		O N 19 W			6	
	14 27 3	1 37 14	40 2 1/2	20 22	185 24 1/4			6	
	8 31 55	19 41 0	13 3 1/2	20 26 3/8	185 13 1/4	77	76	6	
☉ — 26		Noon	46 2 7/12	20 23 1/6		75 1/4	75		
	16 22 36	3 30 36	22 29 1/3	20 15 1/4	184 58 1/4	75 1/4	78	6	
	8 28 13 1/2	19 36 0	12 10 2/3	20 15	184 59 1/4	75	74 1/4	9	
	8 45 54	19 53 46	15 31 1/6	20 15	185 0 1/4			5	
☽ — 27	Ramsden's Q	Noon	46 12	20 15 1/4					
	Dollond's Q		46 13	20 14 1/4		76	74 1/4		
	14 59 55	2 7 34	36 16 1/4	20 18	184 59 1/4	76	74	6	
	8 54 49 1/2	20 2 8	17 21 1/3	20 15	184 59			10	At Annamocka, one of the Friendly Islands
♂ — 28.		Noon	46 15 1/4	20 15	Ramsden's Quadrant				
			46 15 1/4	20 14 1/2	Dollond's Quadrant				
	17 28 14	4 35 26 1/2	9 53 7/8	20 15	184 59 1/4	76 1/4	74	6	

1774.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♂ June 28.	Captain Cook and Mr. Cooper being both on shore at noon, and not coming off till late, I could not wind up the watch at the usual time; and being engaged in the evening, when they did come on board, making computations, &c. unfortunately forgot it until it was down. I wound it up as soon as I recollected it, set it a going, and soon after made the following observations:								
	6 36 29	19 54 4¼	15 49$\frac{1}{12}$	20 15		75	74¼	6	At Annamocka.
	Hence it appears, that the watch was 2 h. 10′ 38″¼ slower than before.								
	7 22 17	20 39 58	24 31¼	20 15		75¼	75½	6	At Annamocka.
	By these the watch was 2 h. 10′ 43″¼ slower than before. The mean of both is 2 h. 10′ 41″								
☿ —— 29.		Noon.	46 27¼	20 05⅝		76	74½		
	14 21 7½	3 38 24	21 9⅛	20 10	184 55¾	76	76¾	5	
	7 11 57		22 36⅔	19 59¼		75½	75	2	
♃ —— 30.		Noon.	46 44⅓	19 51¼		75¼	75¾		
	7 45 51½	20 57 18	27 54$\frac{1}{12}$	19 53	183 38½	74½	75	6	
♀ July 1.		Noon.	46 46	19 54⅛		74	75		
	14 58 38	4 8 2½	15 38$\frac{11}{12}$	19 57	183 9¾	73½	73¼	6	
	7 23 51½	20 28 29½	22 38¼	20 0½	182 2½	75	72	6	
	7 29 28	20 33 56	23 38⅔	20 0½	181 59⅛	75	72	10	
♄ —— 2.		Noon.	46 41	20 3¼		72	72		
	16 2 54		4 8⅔	20 0		72	72½	5	
	6 54 19	19 56 58	16 45	19 45	181 34½	73½	72	6	
	7 1 39	20 4 2	18 9½	19 45	181 34¼	73½	72	6	
☉ —— 3.		Noon.	47 1¼	19 47		73½	74		
	15 11 39	4 13 30½	14 40⅔	19 48	181 28⅛	74	72¼	6	
	6 48 10½	19 48 38	15 3	19 58⅛	181 11	74	74½	6	
	7 11 2	20 11 23	19 29¼	19 58⅔	181 9¼	75½	75½	6	
	7 16 50	20 16 56	20 35⅞	19 58⅔	181 5½	75½	75½	6	
	8 31 36	21 31 32	33 40$\frac{1}{12}$	20 0	181 3⅙	76	75½	6	
☽ —— 4.		Noon.	46 48⅞	20 4⅔		76	75½		
	15 12 26½	4 11 27	14 57	20 9	180 51½	75¼	76¼	6	
	6 38 58½	19 35 6	12 4⅓	20 34¾	180 11⅗	78	75	6	
	6 46 46	19 42 49	13 36⅝	20 34¾	180 10⅛	78	75	6	
♂ —— 5.		Noon.	46 20½	20 38⅛		76	75⅔		
	8 48 25	21 38 51	34 15	20 53	178 52¼	76	76	6	Cloudy.
☿ —— 6.		Noon.	46 9	20 55⅔		76	76⅓		
	15 53 44	4 42 12	8 28½	20 55½	178 24¾	76	76¼	6	
	7 12 5	19 59 15	16 45⅓	20 53⅔	178 8½	76	75	8	Very cloudy.
♃ —— 7.		Noon.	46 20½	20 50⅓		76½	77		
	15 22 42	4 7 12	15 35⅛	20 48⅓	177 30⅔	77½	77¼	6	
	6 58 35	19 41 50	13 26⅔	20 47⅛	177 15⅛	76	75	6	Cloudy.
♀ —— 8.		Noon.	46 35⅝	20 41⅞		77¼	78		
	6 52 6	19 29 16	11 12⅝	20 20	175 49¼	78	77		
♄ —— 9.		Noon.	47 0⅝	20 23½		78	78		
☉ —— 10.		Noon.	47 38½	19 53⅙		74½	74¾		
	14 47 27½	3 20 3½	25 24⅔	19 43	174 47½	74½	74	6	Cloudy, and bad horizon.

1774	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉ L L	Latitude South ′	Longitude East by K	Therm A	Therm B	[illegible]	Remarks
☉ July 10.	6 59 41	19 31 36	12 32⅓	18 49½	174 40½	73⅓	73	6	Cloudy
☽ —— 11		Noon	49 13	18 26⅓		74	74		
	15 28 9	3 57 49	19 10⅓	18 9	174 8⅓	75	75	6	
	7 3 3	19 31 28	13 8⅓	17 38	173 53½	75	74¼	7	
♂ —— 12		Noon	50 27	17 20⅓		76	76		
	15 46 43	4 12 57	16 38⅓	17 7	173 22¼	76⅓	75½	6	Cloudy
	7 2 8	19 27 1⅓	12 45	16 36½	173 5	75⅓	75½	6	
☿ —— 13	15 28 8½	3 51 26	21 31½	16 18⅓	172 42⅞			6	
	6 52 29⅓	19 13 36	10 18⅞	15 49	172 13	75½	76	6	
♃ —— 14		Noon	52 25⅓	15 39½		77½	78		
	15 15 43	3 35 3½	25 19⅙	15 32⅙	171 48½	78	77	6	
	7 12 21	19 29 8	13 57½	15 13½	171 13½	77½	76½	6	
♀ —— 15		Noon	53 4½	15 9½		78½	79⅓		
	15 21 13½	3 34 53	25 37⅓	15 9⅓	170 27½	80	79	6	
	15 26 55	3 40 30	24 29⅓	15 9⅓	170 26⅜	80	79	6	
	9 25 43	21 33 24	38 33½	15 5½	169 1¼	78¼	79¼	3	
♄ —— 16		Noon	53 18½	15 5		78½	79¼		
☉ —— 17	11 6 52½		51 32⅓			78	76⅙	4	☉ N by [illegible] E at 1st Obs. and N 65 W at 2d Ship's course S [illegible] W 5¼ miles an hour
☽ —— 18	12 16 28½		53 25½	15 3⅙		78⅓	76¼	8	
	14 42 10		35 54⅓	15 2¼		78½	76½	8	
	14 42 10	2 42 27½	35 54½	15 14½	167 20¼	78½	76½	8	
	15 56 27	3 56 52½	21 17⅓	15 19⅙	167 22½	78	76¼	5	Cloudy
♂ —— 19		Noon	53 41½	15 12½		76½	76½		
	15 58 45	3 59 49½	20 47⅓	15 17⅓	167 36⅛	77	76¼	3	
	16 1 48½	4 2 53½	20 7⅜	15 17⅓	167 36⅜			3	
☿ —— 20		Noon	53 36½	15 28½					Ramsden's Quad
			53 36	15 29½		74⅓	75		Dollond's Quad
	16 35 35	4 36 32½	12 54½	15 39	167 37½	75	75	7	
	7 51 33½	19 52 19	18 51⅓	16 6⅓	167 38	75	74½	6	N E point of Ambrym N 8[illegible] [illegible]; S point of Whitsun N 37 [illegible]
♃ —— 21		Noon	52 59	16 17⅓		76	77½		Ramsden's Quad
			52 58⅓	16 17⅞					Dollond's Quad
♀ —— 22	9 41 31½	21 40 54½	39 38½	16 25⅓	167 21⅜	74	74⅓	6	In Sandwich's Harbour, in Mallicola,
		Noon	53 3	16 25⅓		76⅓	76	2	
♄ —— 23	8 8 13⅓	20 7 24	22 1⅓	16 25⅓	167 21½	77	77	6	
		Noon	53 15½	16 24½		79	80		Off Sandwich Harbour
	16 5 12	4 4 44	19 34⅓	16 21	167 25½	79⅓	78½	6	S point of Ambrym N [illegible] E; Malkelyne's Isles S 16° W
☉ —— 24	8 4 17½	20 6 1½	21 35½	17 6⅛	168 6⅛	78	77½	6	Monument S 15 W; Three-hills West
	9 38 49	21 40 9	39 23⅓	17 11½	168 0¼	78½	77½	6	Three hills N 50° W; Shepherd's Isles N 30 E
☽ —— 25		Noon	52 47½	17 18⅛		79	80½	2	Monument N 6 E; Montagu Isle S 61° W
	16 8 52	4 10 18	18 6⅜	17 23	168 3	80	79	5	E end of Montagu S 60 W; Monument N 11 W

1774.	Time by Watch K. (H ′ ″)	Apparent Time. (H ′ ″)	Altitude of the ☉'s L. L. (° ′)	Latitude S. (° ′)	Longitude East by K. (° ′)	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☽ July 25.	7 29 21½	19 29 44	13 57½	17 21⅓	167 49⅛	79	78¼	6	Monument N. 48° E. E. point of Montagu S. 49° E.
♂ —— 26.	11 43 41		52 36¼	17 30½	Ship's course E. ½ S. 1½ miles an h. ☉ N. 47°½ W. at 2d obs.			3	Between Hinchingbroke and Montagu Islands.
	13 51 12		43 37					5	
	16 28 52	4 30 20	13 53⅛	17 33	168 6¼	80	81	6	Sandwich Island from S. 36° W. to S. 23° E.
	7 38 41	19 41 48½	16 22⅔	17 52⅔	168 33¼	74¼	74	6	S. end of Sandwich S. 80° W. Traitor's Head S. 24° E.
☿ —— 27.		Noon.	52 31	18 0¼		74	73¼		Erramanga from S. to S. 17° E.
	16 13 55	4 18 13½	16 17 1/12	18 9⅓	168 52½	74¾	74¾	6	Erramanga S. 1° E. to S. 20° W.
	8 22 20	20 47 44	25 38½	18 25⅔	169 10¼	72	72½	6	Erramanga from S. 26° W. to S. 62° W.
♃ —— 28.		Noon.	52 20½	18 24⅞		71½	71⅓		Traitor's Head S. 38° W.
	16 31 16	4 36 28	12 24⅜	18 24	169 8¼	73	75	6	Traitor's Head S. 29° W.
	7 37 38	19 43 29	16 40	18 27	169 20	72	70½	8	Traitor's Head S. 51° W.
	7 45 28	19 51 20	18 19	18 27	169 20⅛	72	70½	8	
♀ —— 29.		Noon.	52 29	18 30⅓		73	74		Traitor's Head S. 61° W.
	16 28 23	4 33 52	13 0	18 34½	169 15¼	73	72¼	6	Traitor's Head S. 56° W.
	8 53 6½	20 57 22	13 36	18 32½	168 58⅛	71½	70¾	3	Traitor's Head S. 41° W.
♄ —— 30.		Noon.	52 40⅛	18 33½		72¼	72⅔		
	16 27 19½	4 32 0½	13 31⅝	18 30	169 5⅓	75	76¼	6	
	7 40 48	19 44 38	17 10½	18 23	168 54¾	74	73¾	6	Traitor's Head S. 12° W. distant about 7 leagues.
	7 46 45	19 50 41½	18 26⅓	18 23	168 56⅛	74	73¼	3	
	7 59 22	20 3 10½	21 1⅔	18 23	168 53	74	73¼	8	
	9 56 20	22 0 20	42 46⅓	18 22	168 54¾	74	76	6	
☉ —— 31.		Noon.	53 7¼	18 21		75	81		
	16 46 55	4 50 37½	9 40 1/12	18 24	168 53½	75	74½	6	
	8 37 10	20 39 48	28 32⅔	18 24⅔	168 38⅞	74	75¾	8	
	8 42 55	20 45 24	29 39⅞	18 24⅔	168 35¼	74	75¼	8	
☽ Aug. 1.		Noon.	53 10¼	18 32⅓		74	73⅓		Erramanga from S. 12° W. to S. 57° E.
	16 23 42	4 25 34	14 58¾	18 46⅔	168 28	75	76¼	6	Erramanga from N. 8° E. to S. 12° E.
	8 51 25½	20 52 52	31 3	18 45½	168 23⅛	75	76	8	Off Traitor's Head.
	8 58 4	20 59 30½	32 19⅛	18 45½	168 23⅛	75	76	8	
♂ —— 2		Noon.	53 12¼	18 46⅛		78	78½		
	16 47 46	4 49 30	9 58 1/12	18 44	168 28	80	78	6	Erramanga from N. 36° E. to S. 12° E.
	8 42 28	20 45 36½	29 52	18 38	168 48	75	73	8	Traitor's Head S. 16° W. and the land from S. 80° W. to S. 16° E.
	8 51 40	20 54 36½	31 36¼	18 38	168 47½	75	73	8	
☿ —— 3		Noon.	53 37⅓	18 36½		76½	74		Erramanga from S. 71° W. to S. 18° E.
	15 49 58	3 52 37½	22 10⅝	18 41	168 43¾	78	74¼	6	

1774	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉ L L ° ′	Latitude S ° ′	Longitude East by K ° ′	Thermom. A	Thermom. D	[illegible]	Remarks
☿ Aug 3	8 10 35	20 12 55	23 24	18 43	168 40	75	71	6	At anchor in the Bay N of [illegible] Head
	8 18 10	20 20 32	24 57$\frac{1}{3}$	18 43	168 40	75	71	6	
♃ — 4		Noon	53 46	18 43		76	78		
	15 20 4	3 22 58	28 18	18 44	168 48	78	77	6	[illegible]
	7 7 4	19 10 31	9 57$\frac{4}{5}$	19 26	168 58	75	73	6	Off the entrance into Port Resolution
♀ — 5	10 10 30		45 4	19 32$\frac{1}{2}$		73$\frac{1}{2}$	73	5	In Port Resolution
	11 44 20		53 21			73	74$\frac{1}{2}$	5	

♄ — 6 I carried the Watch on shore at Port Resolution, in the island of T[illegible] and noted the times of equal altitudes of the sun by it every day the weather would permit until the 19th (see p 97) From these observations it appeared that the Watch was now gaining 13″,938 a day on mean time, and this rate being [illegible],105 different from that which had been allowed, would, it is plain cause a very considerable error in the situation of Aurora and the lands we first fell in with, as the relative situations of the several points had been determined by it To avoid this I computed the situations of the ship every day at noon, from our making Aurora to arriving at this place; and from thence corrected those of the several points of land which had before been settled by the Watch, according to the rate it was now going at and on supposition that the longitude of Port Resolution is 168 58 8″½, which is what the Watch gave it at its Point Venus rate And as I computed the situations of the ship, and all lands seen after leaving Port Resolution on the same suppositions, it is obvious that I had only to determine the absolute error of the Watch at that place, and the true situations of all the other points would follow This error I found to be 0° 42 57 too little, by a mean of 85 sets of observations of the moon's distance from the sun and stars; each set being the mean of from three to twelve single observations And in order to try whether the Watch had kept pretty near this rate all the time we were among these lands, I compared it with a mean of 32 sets of observations at Port Sandwich, with a mean of 48 sets at Pudyoua, or Observatory Isle, where I observed the solar eclipse and with 48 more at Botany Island; and its error at none of these places differed quite 3 from the above. On the 19th, in the morning, we left Port Resolution

1774	Time by Watch K	Apparent Time	Altitude	Latitude S	Longitude	A	D		Remarks
♄ — 20	7 26 10	19 30 58$\frac{1}{2}$	16 27$\frac{1}{6}$	19 24$\frac{1}{2}$	169 32	71$\frac{1}{2}$	71	6	Irronaname S 45 [illegible]
☉ — 21		Noon	58 3	19 33		72	73		Irronaname N 71 [illegible]
	17 1 28$\frac{1}{2}$	6 3 35	8 44$\frac{1}{2}$	19 39$\frac{1}{2}$	168 52		72	6	Erronan S 12 [illegible]
	7 19 19	19 18 44	14 7$\frac{1}{2}$	18 38	168 11$\frac{1}{2}$	70$\frac{1}{2}$	70$\frac{1}{2}$	6	Erromanga from S 59 [illegible] to N 76 [illegible]
☽ — 22		Noon	59 38$\frac{1}{2}$	18 18$\frac{1}{2}$		72$\frac{1}{2}$	75		Traitor's Head S [illegible]
	16 2 8$\frac{1}{3}$	4 0 8	23 31	18 1$\frac{1}{2}$	167 50$\frac{1}{2}$	73$\frac{1}{2}$	74	6	Sandwich Island from N 32 E. to N 55 W

1774.	Time by Watch K.			Apparent Time.			Altitude of the ☉'s L. L		Latitude South.		Longitude East by K.		Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
	H	'	"	H	'	"	°	'	°	'	°	'				
☽ Aug. 22.	8	0	58¼	19	55	34½	23	7¼	16	46	166	58⅜			6	Mallicola from N. 36°
	8	7	0	20	1	40	24	28⅛	16	46⅓	167	1⅛			6	E. to N. 35°. W.
♂ —— 23.				Noon.			61	$53\frac{7}{11}$	16	23⅙			74½	73⅓		Mallicola from S. 35° E. to N. 43° W.
	7	25	32	19	19	4	15	17½	15	47⅓	166	43¼		76¼	4	Cloudy.
	8	53	51⅓	20	47	42	35	$9\frac{9}{10}$	15	40⅙	166	47¼	76½	78⅓	6	Off Tiera del Espiritu
☿ —— 24.				Noon.			63	14⅛	15	23⅓			77⅓	81		Sancto.
	16	49	32	4	43	6	15	1⅞	15	7½	166	42⅞	79	80¼	6	Cape Quiros N. 50° W.
	9	27	32	21	20	7	42	30⅔	14	54½	166	28		79½	6	Cape Quiros East. C. Cumberland N. 66° W.
♃ —— 25.				Noon.			64	2½	14	55½			79¼	81½		Cape Quiros N. 86° E. C. Cumberland N. 58° W.
	14	16	31	2	8	44	48	51⅚	14	53½	166	22¼		81	6	Cape Quiros N. 81° E. C. Cumberland N. 52° W.
	7	52	49	19	44	54½	21	39½	15	6½	166	20⅛	77¼	76¼	6	Cape Quiros N. 48°
	7	56	38	19	48	56	22	34⅞	15	6⅛	166	23⅙	77¼	76¼	4	W.
♀ —— 26.				Noon.			64	13⅚	15	5			78½	80¼		In the bottom of the
	16	32	54	4	25	2	19	23⅓	15	10	166	20⅛	81		6	Bay of Philip & James.
	7	25	12	19	16	52	15	$24\frac{11}{12}$	14	45	166	12⅛	76½	74⅓	10	Cape Quiros S. 68½° E.
	7	30	3	19	21	44	16	32⅔	14	45	166	12⅜	76½	74¾	4	C. Cumberland N. 60° W.
♄ —— 27.				Noon.			65	0½	14	39¾			77¾			C. Quiros S. 68½° E. C. Cumberland S. 88° W.
	15	8	22	2	59	38½	38	54¼	14	37	166	6⅛	78	79⅓	6	Ditto S. 36° W.
	7	43	11	19	33	31½	19	22⅓	14	47⅓	165	52¼	77½	78⅓	6	Ditto N. 40° E.
	7	49	39	19	39	58½	20	52	14	47½	165	52	77½	78½	6	
☉ —— 28.				Noon.			65	10½	14	50⅓			78¾	78½		Ditto, N. 26° E.
	17	3	32	4	54	13½	12	$58\frac{1}{12}$	14	48⅔	165	58⅛	80	82¼	6	Ditto, N. 26° E.
	7	50	37	19	40	45½	21	7⅜	14	57⅙	165	50⅓	80¼	78	8	Ditto, N. 16° E.
	7	56	58½	19	47	14½	22	37⅓	14	57⅙	165	50½	80¼	78	8	
☽ —— 29.				Noon.			65	23¼	14	58⅖			79⅔	80		Ditto, N. 19° E.
	7	35	6	19	24	54½	17	27⅞	15	24⅚	165	43¼	78	78	6	Off the West side of Quiros' Tiera del Espiritu Sancto.
♂ —— 30.				Noon.			65	23¼	15	19⅞			79	79		
	15	0	51	2	52	14½	40	41¼	15	21⅓	166	6¼	78¼	79	6	
	17	5	38½	4	56	29½	12	31⅓	15	23⅓	165	57½	78½	79	6	
	7	58	35	19	49	42½	23	$12\frac{11}{12}$	15	43⅚	166	2⅛	76½	76	6	
☿ —— 31.				Noon.			65	20⅙	15	45			77⅓	77		Cape Lisburne N. 52° E. Bartholomew Isle N. 70° E.
	15	19	59	3	12	15½	36	20¼	15	42⅗	166	18⅛		79	6	Cape Lisburne N. 31° W. Bartholomew Isle N. 79° E.
	9	9	57	20	59	10	38	39⅚	16	26	165	32⅜	74½	75	8	
	9	52	17	21	41	36	47	30⅗	16	27⅜	165	33¾			6	
♃ Sept. 1.				Noon.			64	53⅙	16	$33\frac{7}{10}$			76	75		
	7	13	42	18	59	54½	11	$28\frac{1}{12}$	17	46	164	46⅛	74½	74½	6	
♀ —— 2.				Noon.			63	42¼	18	6¼			75⅔	76½		
	16	44	29	4	30	6½	18	$16\frac{1}{12}$	18	21	164	37	75¼	76	6	
	9	0	26	20	44	20	34	$44\frac{1}{12}$	19	0⅔	164	10½	74½	71¼	5	Very cloudy.

1774		Time by Watch K	Apparent Time	Altitude of the ☉'s L L	Latitude S	Longitude East by K	Thermom. A	Thermom. B	[illegible]	Remarks
		H ′ ″	H ′ ″	° ′	° ′	° ′				
♄ Sept	3	16 12 13½	3 56 1	25 51½	19 12⅓	164 8¼	74	74	9	
		7 27 23¼	19 10 50	13 46⅚	19 50	164 2⅓	73	73	6	
☉ ——	4		Noon	62 33⅓	19 59¼		74½	71		
		15 43 48	3 27 14¼	32 1½	20 5½	164 2½	74¼	74½	4	Cape Colnet S 41° E; N Point of Island S 6 W
		8 38 49¼		29 48⅓					10	Very cloudy
☽ ——	5		Noon	62 38½	20 16¼		75¼	74		Dollond's Quadrant
				62 39¼	20 16					Ramsden's ditto
See pages 101 to 104 for Observations made on board the ship, at anchor, off Budyoua										
☽ ——	12	10 26 14¼	22 9 48	53 41½	20 2	163 50	75	76½	6	Pudyoua Isles 21° W
♂ ——	13	15 13 13	2 55 34¼	40 40½	19 47	163 31½			8	
		15 20 24¼	3 2 49¼	39 6⅓	19 47	163 32½			10	
☿ ——	14		Noon	66 51[illegible]	19 28½		75	76½		
		16 26 58	4 8 25	24 44⅓	19 18	163 16	75½	79	6	
		16 33 6	4 14 29¼	23 21⅓	19 18	163 15	75½	79	3	
		7 13 49	18 55 35	11 52¼	19 9⅝	163 18½	76	71	6	
♃ ——	15		Noon	67 27½	19 15¼		78½	80		
		15 20 11	3 2 5½	39 48⅓	19 18	163 21¼	80	83	4	
		15 25 37	3 7 36	38 36½	19 18	163 22½	80	83	7	Off the reefs which lie N of New Caledonia
		15 30 48	3 12 46	37 27½	19 18	163 22¼	80	83	5	
		7 25 4	19 7 32	14 45¼	19 33	163 28½	77	76	6	
♀ ——	16		Noon	67 31½	19 34½		77¼	77¼		
		16 31 23	4 14 46	23 31⅓	19 34	163 41½	78	80	6	
		8 42 3	20 26 53½	33 3⅙	19 49	164 2½	76½	76½	6	
♄ ——	17		Noon	67 35[illegible]	19 53¼		77½	77¼		
		16 42 1	4 27 8	20 44⅛	19 59	164 5¼	77½	76¼	6	
		8 2 37		24 19			76	75¼	3	Very cloudy
☉ ——	18		Noon	67 48¼	20 4[illegible]		77¼	79		
☽ ——	19	7 26 3	19 15 35	17 4⅙	20 25	165 7¼	74¼	73	6	
		8 39 22¼	20 28 46½	33 48½	20 29	165 5	75	75	5	
♂ ——	20		Noon	67 58⅚	20 41[illegible]		74½	73		Off New Caledonia
		15 51 25	3 40 56	31 33⅞	20 50½	165 6½	74½	73	6	
		7 0 25	18 50 56	11 27½	20 52	165 20¼	73½	71	6	
☿ ——	21		Noon	68 7¼	20 54½		74	73¼		The Point above Cape Colnet S 89° W
		16 12 33	4 3 38	26 33½	20 57½	165 28½	74¼	73¼	6	The above Point N 83° W
		7 12 39	19 5 32	14 56[illegible]	21 12⅙	165 54½	73½	71	6	
♃ ——	22		Noon	68 0	21 25⅓		74½	73½		New Caledonia from N 88° W to S 36 E
		16 24 13	4 17 55	23 19½	21 37½	166 5⅙	74	72	6	
		7 57 56	19 52 40	25 47½	21 51½	166 20½	72½	71	6	Q. Charlotte's Foreland S 28° E
		9 29 59	21 24 44	46 7[illegible]	21 51	166 20¼			6	Ditto, S 25° E
♀ ——	23		Noon	67 55½	21 53½		73½	73		Ditto, S 23° E

1774.	Time by Watch K.	Apparent Time.	Altitude of the ☉'s L. L.	Latitude S.	Longitude East by K.	Thermom. A.	Thermom. D.	No. of Obs.	Remarks.
	H ′ ″	H ′ ″	° ′	° ′	° ′				
♀ Sept. 23.	16 3 20⅓	3 58 40	27 47	22 0⅓	166 28¼	74	73½	6	Q. Charlotte's Foreland S. 4° E. & C. Coronation, S. 52° W.
	7 50 25	19 47 0	24 39	21 57⅔	166 46⅛	72¼	72	6	
♄ —— 24.		Noon.	68 13	21 59½		74½	73		Q. Charlotte's Foreland S. 26° W.
	14 51 50	2 48 2¼	43 33¼	22 4	166 40⅛	73½	74	6	
	7 9 56	19 6 7	15 24⅘	22 8	166 38¼	73	71½	5	
☉ —— 25.		Noon.	68 25⅗	22 10¼		74¼	73½		C. Coronation N. 78° W. & Q. Char. Foreland S. 37° W.
	16 9 38	4 5 38	26 27 9/10	22 20	166 34⅛	75	74½	6	
	7 13 53¼	19 10 18¼	16 31¼	22 9½	166 40¼	73	72	3	
☽ —— 26.		Noon.	68 43⅛	22 16		73⅔	73½		Isle of Pines S. 13°½ E.
	16 22 57	4 20 32	23 14	22 20⅓	166 57⅜	76	73¾	6	Cape Coronation N. 76½° W. Isle of Pines S. 1° E.
	8 59 19¼	20 57 32	40 48⅙	22 34½	167 5¼	72	69	4	
♂ —— 27.		Noon.	68 50⅘	22 32½		70⅛	68¾		Isle of Pines S. 53° W.
	15 55 17¼	3 53 42¼	29 27¼	22 32½	167 8⅜	71⅕	69	6	Ditto, S. 48° W.
	7 54 1	19 52 28	26 22	22 49⅔	167 7⅞	68¼	69	6	
☿ —— 28.		Noon.	69 1⅛	22 44⅔		71	71		Ditto, N. 45° E.
	15 11 18	3 7 9½	39 57⅘	22 43⅘	166 28⅜	71	69½	6	Q. Charlotte's Foreland N. 16° W.
	8 5 35		28 44⅓					6	
	9 6 8		42 16	22 29¼		71	73	6	
♃ —— 29.	Dollond's Qu. Ramsden's Q.	Noon.	69 42⅗ 69 42¾	22 26¾ 22 26⅗		72⅔	74		At anchor off Botany Island.
	14 12 32	2 8 40	52 42¾	22 26⅗	166 31	73⅕	75	6	
	16 22 49	4 18 54¼	24 3⅛	22 26⅔	166 33¼	75	74½	6	
♀ —— 30.		Noon.	69 58⅕	22 34⅕		74¼	73		
	16 8 17	4 4 56	27 22⅔	22 40	166 37⅛	76	75½	6	
	7 55 1½	19 53 19	27 3 1/11	22 51⅙	167 1⅛	71⅓	69	6	
♄ Oct. 1.		Noon.	69 59⅗	22 56⅕		72	70⅓		
	16 6 54	48 53½	26 24⅓	23 2⅗	167 56¼	73⅕	69½	6	
	7 12 36	19 16 58	18 52	23 17⅛	168 31¼	69¼	66	6	
	7 21 36	19 25 56¼	20 53⅞	23 17⅛	168 31	69¼	66	6	
☉ —— 2.		Noon.	70 0	23 19⅔		69½	66⅛		
	16 7 25	4 13 34¼	25 37⅘	23 19⅘	168 58	71	69½	6	
	9 53 38	22 1 0	54 49½	23 55¼	169 15¼	69	67½	6	
☽ —— 3.		Noon.	69 38½	24 4¼		70¼	68⅓	6	
	15 41 8	3 50 38⅔	30 48½	24 19⅕	169 47	70¼	68¼	6	
	6 42 32	18 54 2	13 52⅓	25 11½	170 16¼	68	66	6	
♂ —— 4.		Noon.	68 37¼	25 28		68½	69⅔		
	15 50 59	4 4 10	27 36⅛	25 42⅔	170 41	69	69	5	
	6 43 55	18 57 24	14 44⅓	26 33⅕	170 44⅞	66	64½	6	
☿ —— 5.		Noon.	67 36¼	26 53		67¼	64⅔		
	15 49 49	4 3 48	27 44⅔	27 13	170 52¼	68¼	65⅔	6	
	6 50 26	19 4 50½	16 30	27 53	170 58¼	65	62	6	
♃ —— 6.		Noon.	67 0¼	27 52		76⅓	65		

1774	Time by Watch K	Apparent Time	Altitude of the ⊙ s L	Latitude S	Longitude East by K	Thermom. A	Thermom. B	No. of Obs	Remarks
	H ′ ″	H ′ ″	° ′	° ′	° ′				
♃ Oct. 6	16 0 34	4 15 0	25 22⅗	27 52	170 58	69	68	6	
	6 47 57½	19 2 5⅕	16 6¼	27 52⅓	170 52⅞	66	63	6	
♀ —— 7		Noon	67 23	27 52⅓		70	71		
	7 2 13⅕	19 12 45⅕	18 34½	28 17	170 1⅞	66	64¼	5	
♄ —— 8		Noon	67 13⅗	28 24⅘		68	65¼		
	16 2 55	4 11 34⅕	26 24	28 32⅓	169 30	69¼	64½	6	
	8 50 19	20 56 10⅕	40 54⅕	28 51⅓	168 47⅞		65	6	
☉ —— 9		Noon	67 6⅕	28 54¾		68	64¼		
	14 42 59	2 47 5	44 22⅕	28 55	168 25¼	69	62½	6	
	14 49 26	2 53 41	42 55⅓	28 55	168 25½	69	62½	6	
	15 16 15⅕	3 20 31	37 27	28 55	168 23¼	69	62⅕	6	
	16 49 28⅕	4 53 12	17 26⅜	28 56	168 15½	69	62¼	5	
	6 52 59	18 53 12	14 38	28 53	167 22⅗	65½	61¾	6	Norfolk Island S 52° [illegible]
	9 46 24	21 46 48	51 16¼	28 54⅘	167 25⅗	66	62	6	Ditto, S 17° W
☽ —— 10	Dollond's Qu.	Noon	67 26⅓	28 58		66½	63¾		Ditto, S 12° E
	Ramsden's Q.		67 27	28 57⅓					
	16 30 18	4 30 28	22 36¼	29 0	167 21¼			8	
	16 44 25	4 44 38⅕	19 31¼	29 0	167 22½			5	Ditto, S 11° W
	7 18 8	19 18 46⅕	20 23	29 5⅓	167 28⅜	65¼	65	6	Ditto, N. 64° W
♂ —— 11		Noon	67 26	29 21⅓		69¼	66½		Ditto, N 4° W
	14 51 34	2 51 4	43 48⅕	29 29	167 11⅕	69½	64¼	6	
	14 59 2	2 58 42	42 14⅘	29 29	167 14¼	69½	64¼	8	
	7 5 46	19 4 22⅕	17 23⅛	30 35½	166 57¾	66	63	6	
☿ —— 12		Noon	66 8¼	31 1½		69¼	66¼		
	15 25 54	3 24 58	36 26½	31 17½	167 4⅞	70½	65¼	8	
	16 55 55	4 55 4	17 38½	31 25½	167 5⅞	70½	65	5	
	7 18 51	19 19 11	20 36⅓	32 39⅓	167 23	65¼	62	6	
♃ —— 13		Noon	64 37⅕	32 54¾		68¾	65¼		
	15 46 15	3 48 2	31 34	33 4⅕	167 45⅕	70	63	6	
	15 52 37	3 54 36	30 14⅕	33 4⅕	167 48½	70	63	6	
	7 14 18	19 18 32	20 35⅕	33 43	168 22¼	66	61¼	6	
♀ —— 14		Noon	63 52½	34 2⅓		67½	65¼		
	16 23 41	4 30 28	22 52	34 20⅛	169 0	70½	62⅕	6	
	16 31 26	4 38 14½	21 17⅛	34 21	169 0½	70¾	62⅛	6	
	16 36 14	4 43 10	20 16⅛	34 21	169 2⅗	70¾	62½	6	
	6 59 15	19 9 6½	18 45⅕	35 8½	169 46⅕	65	50	6	
♄ —— 15		Noon.	62 45	35 32		67½	65⅕		
	7 15 34	19 32 37½	23 31⅕	37 9½	171 34¾	64	60⅕	6	
☉ —— 16		Noon	61 4⅕	37 34¾		66⅕	63⅕		Very cloudy
	11 55 41		60 52	37 34	☉ N W at 2d obs. Ship's course S E 5¾ miles an hour			6	
	13 10 1		54 42⅕					6	
	6 56 21	19 18 24	20 47	38 57½	172 49¼	62¼	58	5	C. Egmont S 17° E
	9 37 57	22 0 27½	49 38	39 12⅓	172 57			6	Ditto, S 72° E
☽ —— 17		Noon	59 37⅓	39 24		64¼	59		Ditto, N 33° E

1774.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude South. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☽ Oct. 17.	These bearings of Cape Egmont are a little doubtful, as we could not be absolutely certain of the Cape Point, on account of the fog over the land.								
	15 2 5	3 25 26	25 1$\frac{1}{4}$	39 49	173 9$\frac{1}{2}$	64$\frac{1}{2}$	59$\frac{1}{2}$	6	In Cook's Straits.

♂ —— 18. We got safe moored, the third time, in Queen Charlotte's Sound, New Zealand; and I got my Observatory and Instruments up on the 19th, but, on account of the bad weather, did not get equal altitudes of the Sun before the 22d, on which, and all future days, until November 5th, I compared the Watch with the Clock (see p. 112.). Hence it appeared, that the Watch was then gaining 12″,576 a day on mean time, and that it was 12 h. 9′ 38″,86 too slow for mean time, at Queen Charlotte's Sound, on ♄ October 22d, at noon. The Watch therefore places the Sound, this time, 173° 41′ 28″$\frac{1}{4}$ East of Greenwich; that is, it makes the difference of Longitude between this place and Point Venus, in Otaheite, 36° 43′ 42″$\frac{1}{4}$. I have here supposed the Watch to go at its Point Venus rate till August 7th, and after that time at its Tanna rate.

If we allow the rate it went at, when at Greenwich, before the voyage, all the way from England, it will make the Sound 147° 34′ 26″$\frac{1}{2}$ East of Drake's Island, or 143° 18′ 19″ East of Greenwich. Lastly, if it be supposed to have gone at the rate it went at when here last time, (viz. gaining 9″,091 a day on mean time) it ought to have been too slow for mean time, on ♄ November 5th, 1774, by 12 h. 26′ 14″,2; but as it was only 12 h. 6′ 43″ too slow at that time, it will appear to have erred from itself 19′ 31″.2=4° 52′ 48″$\frac{3}{4}$ of longitude in one year all but a day.

The following longitudes of the ship are computed on supposition that the Watch gains 12″,576 a day on mean time, that it was 12 h. 6′ 43″ too slow for mean time, at Queen Charlotte's Sound, on ♄ November 5th, at noon, and that the true longitude of the Sound is 174° 25′$\frac{1}{2}$, which is what the mean of all my Observations make it.

1774.	Time by Watch K.	Apparent Time.	Altitude of the ☉'s L. L.	Latitude South.	Longitude East by K.	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♃ Nov. 10.	6 34 57	18 59 12	22 14$\frac{1}{2}$	42 18$\frac{1}{2}$	175 10	63	58	5	
♀ —— 11.		Noon.	64 51$\frac{1}{2}$	42 21$\frac{2}{3}$		64$\frac{1}{2}$	60		
	14 18 8$\frac{1}{2}$	2 43 13	47 9$\frac{1}{2}$	42 22$\frac{1}{6}$	175 24	66	62	6	
	14 23 31	2 48 51$\frac{1}{2}$	46 12$\frac{1}{4}$	42 22$\frac{1}{6}$	175 27$\frac{7}{8}$	66	62	7	
	15 33 40	3 58 53	33 42$\frac{1}{4}$	42 22$\frac{2}{3}$	175 26$\frac{1}{2}$	67	62$\frac{1}{3}$	5	
	6 34 1	18 59 9$\frac{1}{2}$	22 26$\frac{1}{3}$	42 54$\frac{1}{6}$	175 28$\frac{1}{2}$	62$\frac{2}{3}$	58	6	
♄ —— 12.		Noon.	64 16$\frac{1}{6}$	43 13$\frac{1}{2}$		64$\frac{1}{2}$	61$\frac{2}{3}$		
	15 45 3	4 12 42	31 14$\frac{2}{3}$	43 27	176 7$\frac{7}{8}$	65$\frac{1}{4}$	64	6	
	15 50 35	4 18 26$\frac{3}{4}$	30 13$\frac{1}{10}$	43 27	176 11	65$\frac{1}{4}$	64	6	
	6 24 17	18 55 0	21 56$\frac{1}{3}$	44 7	176 58	62$\frac{1}{3}$	54$\frac{1}{4}$	6	
☽ —— 14.	6 28 42	19 13 44	25 40	47 33	180 43	55$\frac{1}{4}$	49$\frac{1}{2}$	6	
	9 32 41		54 2$\frac{1}{4}$	47 49$\frac{1}{2}$	Ship's course S. E. by E. 4 miles an hour.		51	5	
♂ —— 15.	14 53 45		59 12$\frac{2}{3}$				52	4	
	17 24 35$\frac{1}{4}$	6 13 38	11 21$\frac{1}{4}$	48 10	181 45$\frac{1}{2}$	58	52	6	
	6 8 12	19 1 28	23 48$\frac{5}{6}$	49 12	182 52$\frac{1}{4}$	53	47$\frac{1}{4}$	6	
☿ —— 16.		Noon.	58 58$\frac{1}{2}$	49 33$\frac{1}{2}$		53	50		
	16 58 1$\frac{1}{4}$	5 56 4	14 45$\frac{2}{3}$	49 58$\frac{1}{3}$	184 6$\frac{1}{2}$	57$\frac{1}{4}$	52	6	

1774	Time by Watch K H	Apparent Time H	Altitude of the ☉ L L	Latitude South	Longitude East by K	Therm A	Therm B	No of Obs	Remarks
♃ Nov 17	15 15 6	4 22 34¼	29 10¼	51 33½	186 3½	55¼	51	6	
	5 36 22	18 51 16	22 40	52 31½	188 28¼	50¼	47½	6	
♀ —— 18		Noon	56 16½	52 44½		54	50½		
♄ —— 19		Noon	55 34¼	53 41½		55	49		
☽ —— 21	6 59 28	21 10 9½	42 10½	55 46½	202 37⅞	50¼	44	6	
♂ —— 22		Noon	54 7¼	55 48½		52	44¼		Foggy
	6 54 22	21 11 46¼	42 35	55 42½	204 41	51	43½	6	
☿ —— 23		Noon	54 26	55 42½		52	44½		
	13 20 39	3 39 4	36 8	55 42¼	204 58	56	48½	5	
	6 40 34	21 6 34	42 12¼	55 33	206 56⅞	51	44	6	
♃ —— 24		Noon	54 48¼	55 32½		52	46		
	6 30 13	21 13 8	43 20¼	55 13⅛	211 18¼	50¼	43	6	
♀ —— 25		Noon	55 23½	55 9½		52	45¼		
	12 57 19	3 45 58	35 41½	55 7⅛	212 46⅛	54¼	43½	6	
♄ —— 26		Noon	55 37¼	55 6½		50¼	43¼		
☉ —— 27		Noon	55 52	55 3		51	44½		
☿ —— 30	13 17 59¼	4 49 5	27 6⅞	55 2¼	223 39	2¼	43½	6	
		Noon	55 54¼	55 31½		54¼	47¼		
♃ Dec 1	2 2 33		21 6	55 12½	237 1¼	50¼	44	6	Very hazy and a high fe
	6 40 18		55 5½	54 53½	☉ N 13° E at 1st Observat. Ship's course N E 5 miles an hour			5	Very foggy
♀ —— 2	8 11 2		56 15¼					6	
♄ —— 3		Noon	57 53½	54 0¼		52½	47		
☉ —— 4	2 38 17	19 15 28	28 38	53 21	241 2½	49	40	6	
		Noon	58 47⅛	53 15¼		56½	41½		
	11 20 42	4 2 58¼	34 51⅙	53 15⅙	242 27¼	58	41¼	6	
	2 29 53	19 19 58	29 24½	53 9¼	244 30½	50¼	41½	5	
☽ —— 5	3 50 46¼	20 42 22	41 29½	53 9	244 53½	52¼	41¼	5	
		Noon	59 2¼	53 7⅞		56	43½		
♂ —— 6	11 21 24		32 44¼	53 6½	246 12¼	58¼		6	
		Noon	59 7	53 10½		56¼	43		
	11 58 22¼		24 55	53 12½		60½	43	6	
☿ —— 7	2 13 9¼	19 32 37¼	31 19⅙	53 17½	252 9⅞	48¼	43½	6	
		Noon	59 17	53 19⅛		52	46½		
	10 4 26	3 27 48	40 13⅞	53 20	253 11½	60½	48	6	Cloudy
	10 7 59	3 31 33½	39 41¼	53 20	253 14½	60½	48	2	Very cloudy
	11 23 37	4 47 34¼	28 30¼	53 20½	253 20⅞	61	50	(	
	2 51 11	20 20 57	38 37⅞	53 29	254 54⅛	53½	44½	(	
♃ —— 8	[illegible]	Noon	59 0¼	53 30½					Ramsden's Quad
			58 59½	53 31¼		62	47		Dollond's
♀ —— 9		Noon	59 0⅛	53 37½		63¼	47½		
	2 8 30	19 45 54	33 37⅞	53 50⅙	258 23½	53¼	44½	/	Cloudy and a bad horizon
♄ —— 10	10 26 59¼	4 15 56	33 23⅞	53 46⅛	260 4⅞	59	44½	(	
☉ —— 11	10 4 23	4 11 26½	34 9½	53 29	264 46½	60	44¼	(	
	2 50 50	21 8 17¼	45 26½	53 26⅙	267 29⅝	53½	44½	5	Cloudy

1774.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude South. ° ′	Longitude Eaſt by K. ° ′	Thermom. A.	Thermom. B.	No. of Obſ.	Remarks.
☽ Dec. 12.		Noon.	59 28¼	53 24½		61¾	44½		
	8 43 40	3 5 5½	43 46	53 22½	268 31⅕	64¼	47	8	
	8 52 48½	3 14 32	42 27½	53 22½	268 36¼	64¼	47	8	
	10 17 12	4 39 14½	30 6⅛	53 22⅓	268 41⅜	68¼	46¼	6	
	2 17 39	20 43 33½	42 13⅜	53 23⅖	269 46	58¼	44¼	6	
♂ —— 13.		Noon.	59 33⅞	53 23¼		62⅓	47		
	9 38 21	4 7 53½	34 47⅝	53 23⅙	270 44⅞	63¼	45¼	6	
	2 3 21	20 41 58	42 4½	53 25	273 7¼	58	44¼	6	
☿ —— 14.		Noon.	59 36¼	53 25⅕		62	46¼		
	10 39 1	5 22 4	23 50¼	53 26	274 17¼	67	45½	5	
	1 37 26	20 27 58½	40 5⅙	53 29¼	276 16½	56	45	6	
♃ —— 15.		Noon.	59 34¼	53 30⅓		62¼	46¼		
	10 47 6½	5 44 6	20 41¼	53 30⅓	277 55¼	62¼	45⅓	6	
	23 58 41	19 2 42½	27 35¼	53 27⅙	279 48¼	52	44	6	
♀ —— 16.		Noon.	59 41⅗	53 26⅖		62	46		
	9 32 4	4 41 41½	29 55⅜	53 25¼	281 16¼	62	46½	6	
	1 26 0⅓	20 43 3	42 19⅓	53 25	283 14½	62⅓	45	6	
♄ —— 17.		Noon.	59 48⅖	53 21⅞		62¼	47		
	8 47 32	4 8 49½	34 50⅖	53 17⅗	284 21⅓	62¼	47	6	
	23 10 54½	18 39 35	24 15¼	53 41⅔	286 18⅕			6	
	2 57 23		54 35⅕	☾N. 17° E.	The Ship's courſe S. E. 6½ miles an hour. The latitudes deduced were, 54° 13′½, and 54° 13′⅔.			5	
☉ —— 18.		Noon.	58 58¼:	54 13⅞					Cape Glouceſter N. true. Cape Noir S. 62° E.
	4 41 56		58 53 9/10					5	
	6 29 57		51 50⅙	☾N. 68° W.				5	Cape Noir S. 62° E.
	8 45 30	4 17 18½	13 28¼	54 36½	287 9½		50	6	Cape Noir N. 2° W.
	22 13 42	17 50 44	17 37⅙	55 13⅙	288 34::	54	45½	5	Cape Deſolation N. 4° E.
	0 59 36½	20 38 42½	41 9	55 17⅓	289 6¼	59	46½	6	C. Deſolation N. 56° W. Gilbert's Iſle N. 62° E.
☽ —— 19		Noon.	57 54	55 20⅓		64¼	50¼		Gilbert's Iſle N. true.
	8 44 46	4 24 26½	32 23	55 30½	289 18¼	65½	48	6	
	23 25 48	19 7 26½	28 25⅕	55 38⅖	289 54¼	65¼	54	6	York Minſter N. 17° E.
♂ —— 20.		Noon.	57 36	55 39¼		65¼	54		York Minſter N. 6° W.
	8 32 21	4 15 2½	33 43⅕	55 31⅙	290 15	68	53½	6	

This evening we anchored in Chriſtmas Sound, on the S. W. ſide of Terra del Fuego, where I found that the watch was gaining 12″,377 a day on mean time, which is ſo near what it was gaining at New Zealand, that I made no difference in the manner of computing the longitude of the ſhip by it. It made the longitude of Chriſtmas Sound 290° 19′ 41″¼ Eaſt of Greenwich.

1774.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude South. ° ′	Longitude Eaſt by K. ° ′	Thermom. A.	Thermom. B.	No. of Obſ.	Remarks.
☿ —— 28.	9 33 9	5 13 48	25 20⅓	55 49½	291 5⅕			8	St. Ildefonſo's Iſles S. 40° to 50° W.
	0 50 57	20 39 1½	40 50⅗:	55 56⅕	293 6¼	58	49½	7	C. Horne S. 63° W. about 6 miles off.

1774	Time by Watch K (H ′ ″)	Apparent Time (H ′ ″)	Altitude of the ☉'s L. L.	Latitude South (° ′)	Longitude East by K (° ′)	Thermom. A	Thermom. B	No. of ☉	Remarks.
♃ Dec. 29		Noon	57 21⅛	55 43⅞		64	52½		Barnevelt's Isles S 38° W. Evout's Isle N 69° W
	8 6 42	3 59 42	35 43¼	55 28	294 24¼	64+	53	8	
	9 55 57	5 49 52	20 12⅛	55 20	294 38¼	66	52¾	6	
	1 6 4	21 1 32	44 9⅛	54 52+	295 8⅓	63	54	6	Succefs Bay N W
♀ — 30		Noon	58 8⅓	54 53		65	56½		Succefs Bay S 81° W C Diego N 45° W and C St. Anthony N 45 E.
	9 41 42	5 36 50	21 54½	54 55	295 7¼	65	54	6	C. of Good Succefs S 56° W C. St Diego N 15 W
♄ — 31		Noon	58 15	54 42+		62	52¼		
	8 38 17	4 37 2	30 24⅞	54 41	296 9⅛			6	At anchor off New
	9 36 16	5 34 49	22 7¼	54 41	296 8⅓	63½	51¼	6	Year's Ifland
	23 13 33	19 11 25	28 42	54 41	296 4⅓	59½	52	6	
1775			58 3	54 48	No dip				In New Year's Harbour, Staten Land
☉ Jan. 1		Noon							
			58 12	54 40	Dip 3 30′				Obferved by C Cook on the N E. point of New Year's Ifland
	0 14 41	20 11 54	37 17+	54 41	296 8¼	59¼	47	6	
	2 26 7+		53 21⅓			56+	47+	5	
☽ — 2	6 40 36		46 42¼	54 41		64¼	49	2	At anchor off New Year's Ifles
	6 52 14		45 12+			64¼	49	5	
	8 45 16	4 42 13	29 32⅓	54 41	296 6	67¼	51¼	6	
	22 22 18	18 20 3	21 13	54 46	296 22¼	57¼	49	5	C St Juan S. 54° W diftant about 5 miles
	1 9 12+	21 6 40	44 32¼	54 54	296 19⅞			6	C St Bartholomew S 59° W C S Juan N
♂ — 3		Noon	57 47	54 55⅘		44+	52+		C St Juan N 2° W
	7 36 55	3 34 24	39 3¼	54 53	296 22⅛			4	Ditto N 2° W
	22 22 55+	18 25 40	22 0⅓	55 11	297 47+	54⅓	47	6	
☿ — 4		Noon	57 4½	55 32		60	51		
	22 53 28	19 8 29	27 56	56 47⅝	300 59¼	50	44	6	
♃ — 5		Noon	55 22⅓	57 8		59	47		
	9 11 46	5 33 16	22 19⅓	57 17	302 43¼	64	46+	5	
	0 37 48	21 8 45½	43 9	57 47	305 11⅓	55¼	43	6	
♀ — 6	4 1 7		53 59	57 53	Ship's courfe E 6 miles an hour		41+	6	
	5 45 37		46 27¼				42½	7	
	7 24 34	4 0 10	34 33	58 2	306 26¼	67¼	43	8	Cloudy
	10 30 29	19 9 11	27 52⅓	57 20	307 16¼	47	40	8	Bad horizon
♄ — 7		Noon	55 16⅞	57 0⅓		61	40		
	7 50 50	4 28 44	30 53⅛	56 37⅛	307 8¼	62	43	6	
	23 24 30	20 4 50	35 35⅓	55 14⅓	307 54⅛	51½	44	6	
☉ — 8		Noon	57 0⅓	55 8		61¼	49		
	7 31 16	4 14 28	32 58⅛	55 4	308 37¼	67+	50+	6	
☽ — 9		Noon	56 49½	55 11⅞		63	43½		

1775.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obſ.	Remarks.
♂ Jan. 10.		Noon.	57 17½	54 35½		66½	45		Very cloudy.
	21 39 13	18 44 36	23 57⅔	54 38½	314 34½	51½	42½	6	
☿ —— 11.		Noon.	57 7⅔	54 36⅔			47		
	7 4 18	4 14 18	32 43⅘	54 35½	315 47½	69	45	6	
♃ —— 12.		Noon.	57 6½	54 28¼		59½	42½		
♄ —— 14.		Noon.	57 18½	53 56⅓		61½	37⅓		
	6 47 5	4 15 42	32 13⅔	53 57⅚	320 53½	61½	37½	6	Willis's Iſle N. 83° E.
	7 47 29	5 16 6½	23 22½	53 57⅚	320 54	62½	37½	4	
☽ —— 16.		Noon.	56 28 1/10	54 25½		57½	39½		
	6 26 5	3 58 0	34 28½	54 8⅓	321 59⅗			6	
	20 57 12	18 32 54	21 24⅗	53 58	323 1½	52	35½	6	Poſſeſſion Bay S. 25° E.
♂ —— 17.		Noon.	56 41½	54 0½		61½	39½		C. Buller N. 85° W. Cape Saunders S. 85° E. and Poſſeſſion Bay S. by E. 3 miles.
	5 53 16½	3 30 38⅔	38 12⅔	54 3½	323 29½	62	39⅓	6	
	21 6 57	18 47 5⅓	23 21⅓	54 21	324 16½	49⅓	37½	6	Cooper's Iſland S. 18° E. Cape Saunders N. 73° W.
☿ —— 18.		Noon.	56 0⅔	54 30½		62	43		Cooper's Iſland S. 2° W. Cape George S. 67° W.
	5 59 17	3 40 26	36 32⅓	54 35	324 34⅘	66½	41½	6	Cooper's Iſland S. 17° W.
	21 46 52	19 28 16	29 8⅓	54 42⅙	324 42⅞	49½	37½	6	Ditto, S. 53° W. Clerke's Iſles E. S. E.
♃ —— 19.		Noon.	55 35½	64 42⅔		60⅓	45		C. Charlotte S. 49° W. A rock off Sandwich Bay S. 80° W.
	6 1 59	3 43 0	35 57½	54 47⅓	324 40½	61	42	6	
	20 49 3	18 27 49	20 19	55 0⅔	324 11½	52	39	6	Cooper's Iſland N. 21° E. C. Diſappoint. N. 57° W.
♀ —— 20.		Noon.	55 2⅛	55 3½		66	43		Pickerſgill's Iſland N. 50° W. C. Diſappoint. N. 11° W.
	6 38 0	4 18 25	30 45	55 10⅙	324 39	62½	39	6	
	6 56 16	4 41 18	27 19½	55 15	325 55⅞	68	40	6	The horizon bad.
☿ —— 25.	2 21 46		52 53½	56 0⅞	☉ N. 78° W. at 2d Obſ. Ship's courſe E. by S. 5 miles an hour.			5	
	5 48 56		34 53⅓					5	
	6 28 35	4 18 54½	29 36	56 9⅛	327 43½			4	
	20 39 9	18 35 40	20 28½	57 8⅓	329 20	47½	42½	5	
	20 41 40	18 37 55	20 47	57 8⅓	329 16	47½	42½	5	
♃ —— 26.		Noon.	51 4⅓	57 38½		62	41½		
	20 48 8	18 44 20	21 28⅘	59 15	329 21⅞	49½	39	7	
♀ —— 27.	23 0 47½	21 0 24	37 21 1/10	60 4⅛	330 29⅛	60½	35½	5	Foggy.
♄ —— 28.		Noon.	48 7⅓	60 5⅛		63	37		Ditto.
	6 57 29½	5 0 0	23 7	60 5⅛	331 5	63½	33½	4	Very cloudy.
☉ —— 29.		Noon.	47 55½	60 1½		64	39		Ditto.
♂ —— 31.		Noon.	48 12½	59 12⅛		61	37		Thule S. S. W. 7 or 8 leagues off.
	5 2 29	3 11 32	35 46½	59 6	333 0½	65	39½	6	

1775	Time by Watch K h ′ ″	Apparent Time H ′ ″	Altitude of the ☉ L L	Latitude South	Longitude East by K	Thermom. A	Thermom. D	[illegible]	Remarks
♂ Jan 31	20 1 52	18 11 14	16 4⅓	58 37½	333 8¼	48¼	33¼	5	C Montagu N 45 E
☿ Feb. 1		Noon	48 42⅞	58 25		64¼	39		Ditto E & Friesland s Peak S 26 E
	5 2 40	3 11 53¼	35 51⅛	58 21½	333 8⅛	66	35	4	
♃ — 2	7 49 53	5 59 50	14 10	57 48⅙	333 24¼	62	37	6	
♀ — 3	2 10 48		49 11⅓			61¼	66	4	
	21 14 1½	19 27 38½	25 33⅘	56 44	334 27	56	36¼	4	
♄ — 4		Noon	49 32	56 44		64	38		
	20 43 7	19 1 48	21 46⅓	57 6	335 47½	46⅓	36¼	8	A bad horizon
☉ — 5	7 14 26	5 38 1	16 17	57 16⅓	337 3	57	37	6	
☽ — 6	20 23 14	19 1 22	26 7	58 21	340 48⅛			1	
	22 8 3	20 47 46½	34 19⅓	58 21½	341 12⅛	50½	38	6	
♂ — 7		Noon	46 55½	58 26½		56⅓	37½		
	1 33 11		46 51⅓	58 24	☉ N 58° W at 2d Observation			6	
	3 38 57		39 19½		Ship's course E 8 miles an hour			6	
	6 50 28½	5 39 13	15 42½	58 28⅓	343 29½	57	35	8	
☿ — 8	20 1 29	18 55 58½	20 8⅓	58 29⅓	344 57⅓	45½	35⅓	6	
		Noon	46 33⅓	58 29⅞		59½	37½		
	19 15 0	18 16 56	14 48½	58 28	346 52⅓	47½	35⅓	3	
♃ — 9	20 31 36	19 33 40	24 44½	58 28	346 54⅞	52	35¼	6	
			46 18½	58 26⅓		62½	40		
	5 9 58	4 13 34⅓	26 16⅓	58 26⅓	347 19⅓	67	40	6	
♀ — 10	18 58 57½	18 6 52	13 11⅓	58 17	348 25½	50	33	6	
		Noon	46 10⅓	58 15⅓		60	34⅓		
	4 59 18	4 15 6	25 50⅙	58 16⅓	350 25½	61	34	2	
♄ — 11	22 6 52	21 28 52	37 44⅓	58 7	352 0½	61	34	6	
		Noon	45 54⅓	58 6⅓		46	36⅓		
☉ — 12	19 20 3	18 46 38½	17 51⅓	58 23	353 12½	50½	33		
		Noon	45 26⅓	58 20⅓		66	37⅓		
	5 2 8	4 30 26½	23 19⅓	58 20	353 29⅓	67	35⅓	6	
☽ — 13	19 19 6	18 51 48	18 15⅓	58 2	354 47			5	
		Noon	45 30⅓	57 56½					
♂ — 14	19 42 35	19 31 10½	23 16	57 28½	358 48½	59½	33		
		Noon	45 43⅓	57 23½		43	32	6	A great sea.
						52½	32⅓		
	4 24 24	4 19 36	24 23⅓	57 20	0 28½	54½	37	8	An exceeding high sea.
	19 12 54½	19 19 42	21 35⅓	56 47⅓	3 23½	43⅓	34⅓	3	Cloudy & a great sea
	19 56 23½	20 3 32	27 23⅓	56 46½	3 29⅓	46	34⅓	6	

Having now made upwards of 360° of Longitude, I rejected a circle, and repeated ♂ February 14th, to make my day correspond with the day at Greenwich

1775	Time by Watch K	Apparent Time	Altitude of the ☉ L L	Latitude South	Longitude East by K	Thermom. A	Thermom. D	[illegible]	Remarks
♂ — 14		Noon	46 9⅓	56 37⅓		56½	35½		
	4 20 34	4 33 54½	22 26⅓	56 18					
☿ — 15	20 7 21	20 24 8	30 13½	55 30⅓	5 3⅛	57	35½	6	
		Noon	47 0½	55 26⅓	5 56⅓	50	35½	6	A troublesome sea
						58	36½		

1775.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♃ Feb. 16.	4 39 55	4 59 54	18 28¼	54 24⅙	6 47½	60	33½	6	
	19 16 40	19 43 4	24 27¼	54 21½	8 24½	50	33	6	
♀ —— 17.		Noon.	47 21⅙	54 23⅞		58¼	36		
	3 44 4	4 15 14¼	24 35⅓	54 25	9 36¼	65	36½	6	
♄ —— 18.		Noon.	47 0⅓	54 23		61¼	34½		Very cloudy.
☉ —— 19.	20 0 22½	20 57 0	33 30½	54 13⅙	16 3		36½	6	
☽ —— 20.		Noon.	46 26	54 15⅔		56	40		
	19 33 4	20 39 53¼	3 56	54 25⅔	18 37⅔	55	36	6	
♂ —— 21.		Noon.	45 55½::	54 24⅔		61	37		Cloudy.
	3 5 38	4 16 5⅓	23 18⅞	54 22⅔	19 32½	64	37	8	Cloudy and bad horizon.
	18 16 19		21 43	55 4	21 36½	47½	35	3	Cloudy.
	18 21 48¼	19 40 8	22 24 9/10	55 4	21 31½	47½	35	2	Very cloudy.
	21 11 21		41 36⅓	55 11	Ship's course S. E. ¼ E. 5½ miles an hour.		36	5	
	22 26 10		44 44⅙				36	2	Very cloudy.
☿ —— 22.	23 23 19		43 53½					5	
♃ —— 23.		Noon.	45 10½	54 26⅙		61¼	35½		
	18 16 42	19 56 9	24 28½	53 9⅔	26 35	50	37	4	Ditto.
	19 22 52	21 1 15¼	33 23 1/11	53 5⅓	26 34	52	38	8	Cloudy.
♀ —— 24.		Noon.	46 23½	52 51¼		59¼	38½		
	17 33 29¼	19 20 6¼	19 32	50 52⅙	28 38			5	
♄ —— 25.		Noon.	48 19	50 33½		54	41		
	18 7 45	19 59 43	25 38½	49 37	29 58½	56	40⅔	6	
	19 45 24	21 37 44	39 24⅙	49 31½	30 4⅙	59	42	6	Ditto.
☉ —— 26.		Noon.	49 9½	49 20¼		62¼	45¼		
☽ —— 27.		Noon.	50 9¼	47 58⅔		66⅔	47		
♂ —— 28.	23 5 20⅔		47 44⅓	46 54	☉ N. 31 W. at 2d Observation. Ship's course N. W. 4½ miles an h.			6	Bad horizon.
	0 39 41¼		37 0					5	
	2 25 28	4 32 46¼	20 25½	46 49	33 46⅞	63¼	43½	6	
☿ March 1.	17 27 0¼	19 24 33	19 39⅔	45 54	31 24			8	Very cloudy.
♃ —— 2.		Noon.	51 27	45 32⅔		54½	47		
	2 11 56	4 8 4	44 24½	45 14	31 2¼	54	43	6	
	17 18 13	19 11 28	17 25½	44 8½	30 19½	49	42	6	
♀ —— 3.		Noon.	52 43¼	43 53½		49½	44		
	2 27 0	4 19 24	22 35	43 34⅙	30 6¼	52½	44	6	
	17 29 16	19 19 3	18 34½	43 43⅓	29 27¼	53½	51¼	10	Very hazy.
♄ —— 4.		Noon.	52 26⅔	43 46¼		56½	55		
	1 45 5	3 32 34	30 16⅔	43 49½	28 52⅞	59	57	3	
	1 56 28	3 44 9¼	28 21	43 49½	28 55	59	57	6	
	17 33 24¼	19 15 46	17 39⅙	44 5½	27 35¼	56¼	53	6	
☉ —— 5.		Noon.	52 1	43 49¼		58¼	50½		
	17 41 3	19 23 29	18 59⅓	42 44⅓	27 36½	54	51½	6	
☽ —— 6.		Noon.	53 3¼	42 23¼		56½	52⅓		
	1 7 35	2 50 1¼	37 29	42 14		59¼	54	2	
	17 9 32	18 49 18	12 37⅓	41 33	26 55¼	57¼	57	6	

1775	Time by Watch K	Apparent Time	Alt. of the ☉ L. L.	Latitude S	Longitude E by K	A	B	C	R
	H ′ ″	H ′ ″							
♂ March 7		Noon	53 1[illegible]	[illegible]		63	61		
	1 29 27	3 7 4	3[illegible] 2	[illegible] 9	[illegible]	6[illegible]	[illegible]	[illegible]	
	17 51 4	19 31 6	20 13	41 [illegible]	26 27	[illegible]	[illegible]	[illegible]	
☿ —— 8		Noon	[illegible]	[illegible] 17		[illegible]	[illegible]		
	17 22 59	18 57 51	13 [illegible]	42 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
♃ —— 9		Noon	52 10¾	42 6		[illegible]	[illegible]		
	3 0 49½	4 32 36	18 51	42 9	[illegible]	[illegible]	[illegible]	[illegible]	
	18 5 37	19 36 9	20 32½	[illegible] 10	1 35	58	[illegible]	10	Very cloudy
♀ —— 10		Noon	52 56	40 56		59½	[illegible]		
	1 55 25	3 24 41	[illegible] 52	40 50	21 16	60	62	[illegible]	
	2 26 6	3 55 21	[illegible] 42½	40 19	[illegible] 15½	61	6[illegible]	10	
	17 37 31½	19 6 37	14 59½	40 3	21 12	57	[illegible]	[illegible]	
♄ —— 11		Noon	53 20	40 2		59	[illegible]		
	20 37 6	22 8 20	40 1	38 57	1 13½	61	61½	6	Very cloudy
☉ —— 12		Noon	54 15½	38 50½		61½	[illegible]		
	1 34 25	3 4 17	31 [illegible]	38 41	4	[illegible]	[illegible]	[illegible]	
	19 39 19	21 4 18	36 [illegible]	37 33	[illegible] 16	[illegible]	[illegible]	[illegible]	
☽ —— 13		Noon	[illegible]	37 18		[illegible]	[illegible]		
	1 45 29	3 7 31	31 5	37 5	[illegible]	73	72	[illegible]	
	19 24 36	20 46 51	[illegible]	36 38	[illegible] 8	7[illegible]	70½	[illegible]	
♂ —— 14		Noon	[illegible] 51	36 7		7[illegible]	[illegible]		
	2 33 22	3 56 1[illegible]	[illegible] 51	36 18	[illegible] 5½	78	70½	[illegible]	
	17 37 38	18 59 56	1[illegible] 10½	35 [illegible]	3 10	71	69	[illegible]	
☿ —— 15		Noon	56 39	3[illegible] 1		[illegible]	72		
	2 55 [illegible]	[illegible] 18 [illegible]	[illegible] 40	35 [illegible]	23 6½	[illegible]	69	10	
	1[illegible] 50 1[illegible]	20 1 8	[illegible] 33	34 19	2 19	[illegible] 9	67	6	
♃ —— 16		Noon	56 12	34 49		71	[illegible]		
	2 16 [illegible]	3 37 41	[illegible]	34 19	[illegible] 9	71	[illegible]	[illegible]	
	17 45 23	19 2 38	13 28½	34 56	21 8½	70	[illegible]	6	
♀ —— 17		Noon	56 51	35 2		70	70		
	2 16 6	[illegible] 3 21	[illegible]	35 [illegible]	21 10½	70	60	6	
	17 47 16		13 [illegible]	[illegible] 5[illegible]	0 [illegible]	70	[illegible]	6	
♄ —— 18		Noon	55 11	[illegible] 59½		71½	70		
	21 37 12	27 46 1[illegible]	1 31	34 1[illegible]	20 25	67	65	4	
☉ —— 19		Noon	55 29	34 51		67½	[illegible]		
	1 31 38	2 17 2[illegible]	[illegible] 50½	34 57	20 8	67½	65½	6	
	19 40 28		13 0	[illegible] 18		67	65	6	The Table hill [illegible] by N
☽ —— 20		Noon	[illegible] 43	34 13		66	66½		The Table hill N 8c [illegible]
♂ —— 21	0 51 37	1 59 55	15 3[illegible]		18 48	79½	76½	5	In Table Bay

♃ —— 23 I carried the watch on shore at the Cape of Good Hope, and compared it with the clock every day from the 24th to ☉ April 23, (see p. 132). From these comparisons it appeared that the watch was then gaining 1″,204 a day on mean time, that it was too slow for mean time at the Cape on ☿ Mar. [illegible] at noon [illegible] 14′ 15″,6 and gave the longitude of the Cape Town 18° 36′ 40″ E. of Greenwich, reckoning in the manner which I did in our passage from New Zealand

1775.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	B.	No. of Obs.	Remarks.

♃ March 23. If we reckon all the way from England at its Greenwich rate, it will place the Cape Town 343° 15′ 47″½ East of Drake's Island, or 338° 59′½ East of Greenwich.

	H ′ ″
It will be found, (p. 14.) that the watch was too slow for mean time at the Cape, on Nov. 14 at noon 1772, by — —	1 30 50,3
It stopped June 28, 1774, — — — —	2 10 41,0
Their sum is — — — —	3 41 31,3
The watch ought to have gained between Nov. 14, 1772, and March 24, 1775, according to the rate it was going at when here last	0 17 12,0
Hence it ought to have been too slow, March 24 at noon, by —	3 24 19,3
I found it actually too slow that day at noon, by — —	1 14 15,6
The difference is — — — —	2 10 3,7

equal to 32° 30′ 55″½ of longitude, the error of the watch in two years and five months nearly.

The following longitudes of the ship are computed, on supposition that the watch gains as above-mentioned, that it was too slow for mean time at the Cape on ☉ April 23 at noon, by 1 h. 7′ 38″,48, and that the longitude of the Cape Town is 18° 23′ 15″ East, as was determined by Messrs. Mason and Dixon, in the year 1761.

1775.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude East by K. ° ′	Thermom. A.	B.	No. of Obs.	Remarks.
♃ April 27.	18 40 19	19 42 53¼	12 34⅓	33 4	16 42⅞	63½	63½	6	
♀ —— 28.		Noon.	42 49½	32 50		66	68½		
	18 39 42½	19 32 10½	10 55⅔	31 45⅔	14 12⅓	65½	64	6	
♄ —— 29.		Noon.	43 49⅔	31 31		66			
	18 46 3	19 29 4	10 39⅓	30 29	11 51¼	64½	62	5	
☉ —— 30.		Noon.	44 44⅓	30 17⅔		64	63½		
	19 2 6⅓	19 38 20	12 43⅓	29 21	10 11½	63⅔	63½	3	
☽ May 1.		Noon.	45 31½	29 11⅞		65⅓	66½		
	4 20 30	4 54 30½	6 18⅘	29 1⅙	9 38⅓	67	65	6	
	20 15 11	20 44 55	25 32⅓	28 20⅙	8 35⅓	66	65½	6	
♂ —— 2.		Noon.	46 14⅓	28 11⅙		67	66⅔		
	4 23 44	4 51 33	7 6⅞	28 0⅓	8 7½	68	66½	5	
	18 58 31	19 22 28	10 12	27 12⅙	7 10	68½	67	6	
☿ —— 3.		Noon.	47 7	27 0⅓		70	69		Cloudy.
	23 49 14		47 0⅓	27 1	Ship's course N.N.W. ½ W. 3½ miles an h.	69		5	
	0 44 39		44 6½			69		5	
	3 46 56	4 9 18	15 54$\frac{1}{12}$	26 50	6 47	71½	68½	5	
	19 2 56	19 24 53½	10 41⅞	26 42⅙	6 41⅓	69½	66½	6	
♃ —— 4.		Noon.	47 16	26 34$\frac{1}{12}$		69½	67⅔		
	3 45 34½	4 6 44	16 26⅓	26 25⅚	6 30½	70½	68½	5	
♀ —— 5		Noon.	47 30½	26 2		71⅔	67		Cloudy.

1775	Time by Watch K H ′ ″	Apparent Time H ″	Altitude of the ☉ L L	Latitude South	Longitude East by K	Thermom A	Thermom B	No of Obs	Remarks
♀ May 5	21 39 55		38 14½	25 8½	5 5	68	65½	6	Very cloudy
♄ — 6		Noon	48 15	25 0⅘		68½	66		Cloudy
	3 44 19		18 38½	24 45⅜	4 40½	68½	67	3	Ditto
	19 15 47	19 25 16	11 33⅙	23 44½	3 40⅛	66½	65¼	6	
☉ — 7		Noon	49 31½	23 27½		68	67½		
	4 39 3	4 45 46½	9 25½	23 11½	3 0¼	68	66½	5	
	19 7 36¼	19 11 2½	8 59½	22 23½	2 12⅛	66¼	65¼	6	
☽ — 8		Noon	50 37½	22 5		67½	68		
	3 37 3¼	3 37 57⅓	23 43 9/10	21 55	1 35	67	67¼	6	
	20 4 17	20 0 56	9 50⅛	21 1⅓	0 33	68	67½	4	
♂ — 9		Noon	51 40	20 46¼		68⅓	68⅓		
	4 9 35	4 3 50½	19 2⅓	20 34⅓	0 2⅛	68¼	67¼	6	
	19 27 11	19 18 12	11 16	19 49	0 48¼	68	67½	6	
☿ — 10		Noon	52 30¼	19 39⅔		69½	69¾		
♃ — 11	21 9 39	20 56 5½	31 29⅘	19 3½	1 55	69¼	70	6	
		Noon	53 2	18 52⅙		72	70¼		
	3 58 13	3 43 4	23 54⅓	18 45½	2 20¾	72½	70	6	
	19 37 19	19 20 54½	12 9½	18 32½	2 35	70½	69½	6	
♀ — 12		Noon	53 12	18 27½		72½	72½		
	4 33 31½	4 16 16	17 1½	18 22⅝	2 46⅞	73¾	71	5	
	19 39 37	19 20 56	12 19	17 54½	3 6⅛	71	70¼	5	
♄ — 13		Noon	53 41⅝	17 43		73	74		
	4 23 44	4 3 26½	20 1⅛	17 34⅙	3 29¼	72⅓	72½	6	
	20 10 2	19 47 22½	18 18	16 56⅝	4 2⅞	70¼	70	6	
☉ — 14		Noon	54 23½	16 46½		73	72¼		
	4 24 31	3 59 53	21 4½	16 39⅙	4 31⅞	74	72½	6	
	5 14 27½	4 49 46½	10 22⅘	16 37⅙	4 31¾	73¾	72¼	6	
	19 41 33	19 14 62	11 31⅓	16 10	4 57⅞	72	71	6	
☽ — 15		Noon	54 53¼	16 1⅔		73½	72		
	4 45 2½	4 16 4	17 52¼	15 56½	5 33	73	72⅓	6	
	22 16 58	21 46 56	41 53⅓	15 55⅓	5 46⅞		73½	6	
♂ — 16		Noon	54 45⅞	15 55⅞		73½	75⅓		
	4 52 33½	4 22 29	16 24½	15 55⅓	5 46¼	73¼	73	6	On board the ship at anchor off James's Fort, St Helena
	22 1 29	21 31 16	39 2	15 55⅓	5 45⅞	72¼	71	5	
☿ — 17		Noon	54 32⅞	15 55⅓		73	73		
	6 5 43	4 35 17½	13 33⅘	15 55⅓	5 47¾	74	73½	6	
♃ — 18		Noon	54 19	15 55½		73	72¾		
☉ — 21	21 17 25	20 43 53½	29 45½	15 33⅙	6 15¾	72⅓	70	6	Very cloudy
☽ — 22		Noon	54 0½	15 24		70½	70		Ditto
	20 44 55	20 5 30½	22 15½	14 45¾	7 39½	72½	72⅓	6	Cloudy
	21 45 30	21 5 36	34 19¼	14 43	7 46⅞	73	73½	8	Ditto
♂ — 23		Noon	54 39¼	14 33½		75	74¼		Ditto
	20 7 40½	19 20 33½	13 4⅞	13 45	9 31	73½	72⅓	10	
	10 13 46	19 26 47	14 26⅛	13 45	9 28⅞	73½	72⅓	5	
☿ — 24		Noon	55 31	13 30½		74¼	73		
	20 31 31	19 38 44	17 42⅞	12 6½	10 51⅛	75	72¾	10	

1775.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude S. ° ′	Longitude West by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
☿ May 24.	20 40 25½	19 47 46	19 39⅗	12 5⅝	10 49¼	75	73	6	
♃ —— 25.		Noon.	57 8	11 42½		76¼	75		
	5 25 24	4 31 0	15 53	11 21	11 13	76¼	75	6	
	20 20 50	19 24 4½	15 12⅜	10 19	11 45¾	75⅔	75	6	
♀ —— 26.		Noon.	58 44¾	9 55 1/10		77¾	77¼		
	5 23 10	4 24 52	17 54⅗	9 40⅓	12 7½	77¾	77⅔	6	
	19 59 51	18 58 44	10 11 1/11	8 38	12 46⅙	77	76⅙	6	
♄ —— 27.		Noon.	60 7¼	8 22⅓		78½	79		
	5 6 45	4 3 36	23 12 1/11	8 11⅓	13 15¼	78	79	6	
	20 11 21	19 5 54½	12 4	7 55	13 46¼	78¾	77½	6	
☉ —— 28.		Noon.	60 20⅞	7 58⅞		78	78⅓		
	6 7 56	4 59 13	11 25 1/11	7 55⅞	14 33½			6	On board the ship at anchor off the N.W. side of Ascension.
	6 10 25	5 1 52	10 18	7 55⅞	14 31⅛	79½	78½	6	
☽ —— 29.		Noon.	60 13⅓	7 56¼	Dip 3′¾	79	79		On shore.
♂ —— 30.		Noon.	60 5½	7 55½		79	80½		On board the ship at anchor off the N. W. side of Ascension.
☿ —— 31.		Noon.	59 56	7 56⅓		79¼	82		
	3 39 31	2 29 59½	42 27⅛	7 55⅞	14 30⅓	79	81¼	6	
	5 5 43	3 56 2½	24 45⅘	7 55⅞	14 32¼	79¼	80⅓	6	
	20 25 44½	19 13 26	13 56⅞	7 7	15 8⅛	78	77	6	
♃ June 1.		Noon.	60 44½	6 59½		79	79¼		
	5 0 24½	3 45 18	27 30½	6 58	15 48⅛	79	79	6	
	20 22 0	19 2 5½	11 30⅔	6 45⅙	16 56⅕	79½	77	5	
♀ —— 2.		Noon.	60 52⅚	6 43¼		78¾	78¼		
	5 16 9	3 53 8	25 53⅝	6 41½	17 41⅛	78½	78⅓	6	
	20 48 8	19 19 54½	15 35¼	6 29	18 55⅛	78¼	76	6	
♄ —— 3.		Noon.	61 1⅞	6 26½		79	78		
	4 22 37	2 50 45½	39 0⅕	6 25	19 48½	79	78¼	6	
	20 44 45	19 7 9½	12 52⅞	6 4¼	21 10⅛	79¼	77	6	
☉ —— 4.		Noon.	61 20½	6 0¼		79	79¼		
	6 39 7	4 57 41½	11 49⅘	5 57⅓	22 5½	79	79¼	6	
	20 43 1½	18 56 38	10 38⅛	5 43⅔	23 16⅛	79½	78¾	6	
☽ —— 5.		Noon.	61 35⅛	5 39		79½	80		
	4 51 35	3 1 42½	37 13⅙	5 36½	24 6¼	80	80	6	
	20 51 16	18 55 9½	10 29¼	5 14⅓	25 37½	80½	79⅓	6	
♂ —— 6.		Noon.	61 59¼	5 8⅘			81¾		
	6 3 32	4 3 38⅔	24 12⅕	5 4⅝	26 30¼	80¼	80¾	6	
	21 1 52	18 57 18	11 2⅗	5 1	27 37	80	79⅓	6	
☿ —— 7.		Noon.	62 4⅗	4 57⅝		80	81		
	6 26 11	4 19 12	20 58⅛	4 48⅓	28 11	80	81	6	
	21 17 38½	19 6 2	13 25 1/11	3 59	29 16⅛	80	80	6	
♃ —— 8.		Noon.	63 11¾	3 44⅛		80¾	82¾		
	5 19 13	3 4 34½	37 32½	3 45⅓	30 0¼	81	81½	10	
	21 18 36	18 56 50	11 26 1/11	3 43⅙	31 43	80⅓	80¼	6	
♀ —— 9.		Noon.	63 8	3 43⅕			82		The Island Ferdinando de Noronha S. W. by W. ½ W.

1775	Time by Watch K. H ′ ″	Apparent Time H ′ ″	Altitude of the ☉ & ☾ L. ° ′	Latitude South	Longitude West by K °	Thermom. A	Thermom. B	[illegible]	Remarks
♀ June 9	5 9 2	2 43 58	41 38¾	3 53½	32 30¾	81¼	81¾	7	The Spire Rock or [illegible] middle of Noronha S [illegible] W [illegible]
	6 15 57	3 50 32	27 35½	3 52	32 34¾	81½	81¾	6	The Old Rock which is near the middle of the Island S 27 W 4½ leagues
♄ — 10	21 16 45	18 51 52	10 50¾	2 23	32 23½	80	80	6	
		Noon	64 49	1 57		81¼	82¼		
	7 9 57	4 45 24	16 19½	1 34½	32 16½	81¼		6	
☉ — 11	21 35 5	19 10 30	15 47½	0 35¼	32 12¾	79¼	79¼	6	
		Noon	66 30⅛	0 11¼	Dip 3¼	80¼	81		
				North					
	7 0 12	4 35 47	19 13⅓	0 12½	32 7⅞	80½	81	6	
☽ — 12	21 58 45	19 34 58½	22 12½	1 30½	31 54¼	80¼	80	6	
		Noon	68 28¼	1 50½	Dip 3¼	81	81		
	6 32 37	4 8 48	26 9¼	2 10½	31 52½	81¼		6	
♂ — 13	21 51 50	19 28 30	21 33⅛	3 34½	31 41⅛	81	81	6	
		Noon	70 24¼	3 49¾		80¼	81½		
☿ — 14	25 6 45½	20 42 50	38 42⅞	4 25⅓	31 43¼	78½	79½	6	
	7 8 25	4 44 50⅓	18 55	4 36½	31 36⅛	80		6	
♃ — 15	23 53 13½	21 31 41½	49 56½	6 3½	31 1	78	79	4	Very cloudy
♀ — 16	23 51 54	21 31 45¼	50 14⅛	6 8	30 33⅞	79	78½	6	Ditto
		Noon	72 35¾	6 9½			81½		
♄ — 17	6 21 13	4 1 10½	29 32½	6 10½	30 30½	81¼	80¼	6	
		Noon	72 37¼	6 13		79¼	79		
	7 36 12	6 16 34	12 16⅞	6 13	30 17½	80¼	79¾	6	
☉ — 18	23 7 43½	20 47 18	40 26½	6 8	30 25⅞	79½	77¾	6	
		Noon	72 35½	6 12¼		79½	78		
	6 21 46	4 0 45½	29 31¾	6 12½	30 31⅞	81¼	80¼	6	
☽ — 19	21 23 40	18 48 32	16 59	7 0	30 27½	80¼	79½	6	
		Noon	73 29⅛	7 8½		82¼	82		
	7 1 32	4 39 38	21 6½	7 13	30 38½	81	79½	6	
	21 17 8½	18 53 46½	15 17¼	7 54	30 56¾	80¼		6	
♂ — 20	21 32 47	19 9 19	18 51⅔	7 54	30 58⅛	81¼	80¼	7	
		Noon	74 31⅛	8 10⅛		81¼	81		
	7 2 37	4 36 32	22 16½	8 25⅓	31 34¾	81½	80¾	6	
☿ — 21	21 25 46	18 55 20	16 8½	9 10⅛	32 36½	80	79¾	10	
		Noon	75 49½	9 28¾		81½	83		
	6 15 32	3 42 13	35 10½	9 42⅛	33 14¼	80⅛	81	5	
♃ — 22	21 36 1	19 0 3½	17 48½	10 49½	33 62½	79½	80	6	
		Noon	77 32⅞	11 12		81	84½		
	6 29 48	3 51 28	33 42	11 28½	34 25⅝	80	80	6	
♀ — 23	21 59 46½	19 18 4	22 32½	12 35⅓	35 11⅛	78	78½	6	Very cloudy
		Noon	79 14⅜	12 63⅓		79¾	80		
	6 50 55	4 7 10½	30 40½	13 4⅓	35 40⅛	79	80	6	Very cloudy
♄ — 24	21 28 33½	18 42 4	14 56½	14 14½	36 17¼	77½	76¾	6	Cloudy.
		Noon	81 0⅞	14 37⅞		78	78¼		

1775.	Time by Watch K. H ′ ″	Apparent Time. H ′ ″	Altitude of the ☉'s L. L. ° ′	Latitude N. ° ′	Longitude West by K. ° ′	Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
♄ June 24.	6 50 54	4 2 53½	32 11⅔	14 53	36 35¼	77½	78	6	
☉ —— 25.		Noon.	82 44 1/10	16 20¼		77½	82¼		
	6 29 29	3 36 38½	38 45⅓	16 35	37 43⅞	76½	79	6	Cloudy.
	22 35 7	19 38 46	28 53⅜	17 39⅛	38 31¼	77½	77½	6	
☽ —— 26.		Noon.	84 19⅓	17 53⅔		77½	78¼		
	6 38 27	3 40 28	38 18⅞	18 7⅔	38 54½	76	78½	6	
	21 23 49	18 23 51	12 35½	19 9½	39 19¼	75¼	75½	6	
♂ —— 27.		Noon.	85 59¼	19 31⅞			78		
	6 55 1	3 53 38½	35 45⅝	19 50½	39 38½	76½	77	6	
	21 15 35	18 13 5½	10 50	20 51	39 51½	77	75	6	
☿ —— 28.		Noon.	87 51⅗	21 20 9/10		78½	78		
	7 11 2	4 7 9½	33 10⅗	21 41½	40 9¼	78½	80	4	Cloudy.
	2 46 39½	23 41 7	85 28	23 8½	40 29⅛	81	78½	6	
♃ —— 29.		Noon.	89 43⅔	23 10 1/10		78½	81		
	3 25 7	0 19 44	85 16⅝	23 11½	40 26⅞	81	78½	6	
	22 22 43	19 14 43	25 28	24 47	41 1⅛	75½	76½	6	
♀ —— 30.		Noon.	87 50½	25 9⅞	Dip 4½	77	80½		
	7 6 38½	3 57 49½	36 5	25 30	41 11	77	80	6	
	21 13 7	18 2 42½	10 35½	26 34⅜	41 31	75	74¼	6	
♄ July 1.		Noon.	85 52	27 4⅔	Dip 4½	76	76½		
	6 6 19	2 55 29½	50 8 1/10	27 21⅔	41 35¾	75½	76	10	
	7 17 54	4 7 9½	34 21⅝	27 26⅔	41 33¼	75¼	76	6	
	23 56 22	20 44 18	45 43¼	28 26⅝	41 49¼	75	74¾	6	
☉ —— 2.		Noon.	84 10¼	28 42	Dip 4½	76¼	75		
	5 38 29	2 26 20	56 33 1/10	28 53	41 48⅞	77	75¾	10	
	7 24 9	4 12 12	33 29½	28 58	41 45¼	77¼	75½	6	
	21 55 57	18 44 51	20 17	29 43	41 29¼	74¼	74	6	
☽ —— 3.		Noon.	82 47⅞	29 59½		76¼	74		
	6 1 4	2 50 48	51 11½	30 8	41 14⅝	76¼	75	6	
	21 17 8½	18 7 41½	12 57 1/10	30 52⅔	40 58½	74	73½	3	Cloudy.
♂ —— 4.		Noon.	81 24¼	31 18⅛		76	75		
	6 30 28	3 21 22½	44 36⅔	31 25	40 50¼			6	
	23 13 39	20 5 13½	37 35½	32 22⅜	40 36½	74	73	6	
☿ —— 5.		Noon.	80 5⅜	32 31½		76	75		
	8 28 27	5 20 22½	19 52¼	32 38½	40 29½	77	76	6	
	23 57 56	20 49 50½	46 55½	33 5	40 25½	75¼	74½	6	
♃ —— 6.		Noon.	79 22⅞	33 8⅜		76½	76½		
	5 49 18	2 41 32	52 53½	33 10	40 19⅛	78¼	76¼	6	
	6 15 0	3 7 16	47 31⅔	33 10	40 18⅞	78¼	76¼	6	
	22 52 7	19 44 27	33 16	33 25⅔	40 13¼	76	75	6	
♀ —— 7.		Noon.	78 52⅛	33 32¼		78	77¼		
	7 49 39	4 42 33	27 42 9/10	33 38½	40 3¼	79½		6	
	23 51 15	20 43 49½	45 33½	34 1½	40 4¼	74¾	74	6	
♄ —— 8.	7 9 19	4 1 18½	36 13¼	34 14½	40 11⅛	77	79¼	10	
	23 10 34½	20 1 44	36 49½	34 55	40 20	75	75¼	6	
☉ —— 9.		Noon.	77 8⅛	35 3		76¼	76¾		

1775	Time by Watch K H ′ ″	Apparent Time H ′ ″	Altitude of the ☉'s L L ° ′	Latitude North	Longitude West by K	Thermom A	Thermom B	No of Obs	Remarks
☉ July 9	7 48 17	4 40 38	28 14$\frac{1}{3}$	35 10	40 0¼	77¼	75¼	5	
	23 20 18	20 14 25¼	39 25[illegible]	35 34¼	39 30	75	75[illegible]	6	
☽ —— 10		Noon	76 18¼	35 45¼					
	7 49 1¼	4 45 48	27 16	35 58	38 48$\frac{1}{8}$	77¼	77	6	
	22 45 52	19 49 56	34 26¼	36 44	36 55¼	76	76¼	6	
♂ —— 11		Noon	75 0¼	36 55$\frac{3}{10}$		75¼	76		
	6 57 48	4 6 8	35 11$\frac{1}{3}$	37 6	35 49$\frac{7}{8}$	76	76	6	
	22 53 33	20 10 2	38 23[illegible]	37 58	33 44$\frac{1}{8}$	74	76	6	
☿ —— 12		Noon	73 35$\frac{7}{8}$	38 12$\frac{1}{8}$		76¼	75¼		
	6 28 4¼	3 49 24	38 28¼	38 13	32 29¼	74¼	75	6	
	23 53 18	21 22 22	52 17$\frac{3}{4}$	38 28$\frac{1}{3}$	30 29$\frac{7}{8}$	73	74	6	Very hazy
♃ —— 13		Noon	73 9¼	38 29[illegible]		75	74[illegible]		
	6 44 32	4 17 5	32 29$\frac{1}{3}$	38 32	29 36$\frac{3}{8}$	75¼	74	6	The island Fayal, East

In the morning I took the Watch and Astronomical Quadrant on shore, at the Villa de Horta, on the island Fayal, and noted the times of equal altitudes of the Sun by the Watch every day, from the 14th to the 18th inclusive from whence it appeared that the Watch was then gaining 13 ,528 a day on mean time, or 0 ,324 more than it was gaining at the Cape of Good Hope; and that it was 2 h 20 37″¼ to fast for mean time at Fayal on July 18th at noon The rate of its going, found at this place, being so little different from that which was found at the Cape, I continued to compute the longitude of the ship on the same suppositions as I had done before

1775	Time by Watch K	Apparent Time	Altitude of the ☉'s L L	Latitude North	Longitude West by K	Thermom A	Thermom B	No of Obs	Remarks
♂ —— 18	21 48 53	19 23 28	28 42[illegible]	38 46¼	28 39¼	73	72¼	6	Cloudy The N Point of St George's 47° W 2 miles off
☿ —— 19	17 19 3	4 58 39	24 25¼	39 2[illegible]	27 22¼	74	74	8	Very cloudy The E end of Tercera 8 13° W 5 leagues
	21 10 42	18 54 38¼	23 5$\frac{1}{8}$	39 9	26 15	71$\frac{1}{3}$	72	6	
♃ —— 20	1 24 35		68 18$\frac{1}{3}$	39 13$\frac{1}{3}$	O S 8° W at 1st Obs Ship's course E ¼N 2 miles an hour		76	5	
	2 30 15		70 58				75¼	5	
	3 26 28		65 43$\frac{1}{8}$				74½	5	
	7 24 2	5 9 58¼	22 10¼	39 15[illegible]	25 42$\frac{7}{8}$	72¼	77¼	6	
	21 35 40	19 25 34	28 56¼	39 24[illegible]	24 41¼	72¼	70	6	
♀ —— 21	5 43 44	3 36 8	40 8[illegible]	39 26[illegible]	24 2$\frac{1}{8}$	72	74	5	
	22 46 12	20 41 56	43 29$\frac{1}{3}$	39 35[illegible]	23 9$\frac{3}{8}$	70	71¼	5	Very cloudy
♄ —— 22		Noon	70 28[illegible]	39 37[illegible]		71¼	74¼		
	5 3 46	3 1 2¼	46 39$\frac{1}{3}$	39 45¼	22 45¼	71¼	73¼	6	
	21 25 11	19 29 13	29 27[illegible]	40 32[illegible]	21 1	70	68	10	
	23 18 1	21 22 38	50 37[illegible]	40 39	20 52¼	70¼	67¼	10	
☉ —— 23		Noon	69 5$\frac{1}{8}$	40 48¼		71¼	69¼		
	6 6 33	4 13 48	32 38[illegible]	41 4$\frac{1}{3}$	20 11$\frac{3}{8}$	72¼	72	6	
	21 39 37	19 52 12	33 39[illegible]	41 52	18 49¼	67¼	68	6	

1775.	Time by Watch K.			Apparent Time.			Altitude of the ☉'s L. L.		Latitude N.		Longitude West by K		Thermom. A.	Thermom. B.	No. of Obs.	Remarks.
	H	′	″	H	′	″	°	′	°	′	°	′				
☽ July 24.				Noon.			67	$35\frac{1}{2}$	42	$6\frac{1}{2}$			70	$69\frac{1}{2}$		A bad horizon.
	5	30	14	3	45	8	37	$45\frac{1}{8}$	42	18	18	$13\frac{1}{8}$	70	70	6	
	21	27	36	19	46	40	32	$25\frac{7}{8}$	43	22	17	$8\frac{1}{8}$	68	$65\frac{1}{2}$	6	
♄ —— 25.				Noon.			65	$48\frac{1}{4}$	43	$40\frac{1}{2}$			$69\frac{1}{2}$	67		
	6	33	17	3	55	19	35	$34\frac{1}{8}$	43	$57\frac{1}{2}$	16	$22\frac{1}{4}$	70	68	6	
	22	16	35	20	44	48	42	$11\frac{1}{3}$	45	17	14	$47\frac{1}{8}$	$64\frac{1}{2}$	$63\frac{1}{2}$	6	
☿ —— 26.				Noon.			63	$40\frac{1}{8}$	45	36			66	64		
	5	2	37	3	34	$29\frac{1}{2}$	38	$44\frac{1}{3}$	45	53	13	$51\frac{1}{2}$	67	$63\frac{1}{2}$	6	
	21	19	24	19	59	4	33	$55\frac{11}{12}$	47	1	11	$52\frac{1}{2}$	64	$62\frac{1}{2}$	6	
♃ —— 27.				Noon.			61	$46\frac{1}{8}$	47	$16\frac{1}{2}$			67	$64\frac{1}{2}$		
	4	49	49	3	2	54	38	$28\frac{1}{2}$	47	27	11	$0\frac{1}{4}$	$69\frac{1}{2}$		6	
	21	41	39	20	30	56	38	$50\frac{1}{2}$	47	$59\frac{2}{5}$	9	$26\frac{1}{2}$	65	$62\frac{1}{2}$	6	
♀ —— 28.				Noon.			60	$39\frac{3}{8}$	48	$9\frac{1}{2}$			67	$64\frac{1}{2}$		
	5	50	$58\frac{1}{2}$	4	44	50	26	$16\frac{2}{3}$	48	24	8	$15\frac{1}{2}$	$69\frac{1}{2}$	65	6	
	21	2	48	20	6	27	34	$26\frac{2}{3}$	49	$17\frac{1}{6}$	5	$46\frac{1}{2}$	$65\frac{1}{2}$	$62\frac{1}{2}$	6	
♄ —— 29.				Noon.			58	$57\frac{7}{8}$	49	$37\frac{1}{2}$			$67\frac{1}{2}$	$62\frac{2}{3}$		
	4	9	55	3	18	4	39	45	49	$54\frac{2}{3}$	4	$38\frac{2}{3}$	69	64	6	

A little before noon on the 30th we anchored at Spithead, and soon after I carried the Watch on shore, in company with Captain Cook and Lieutenant Cooper, to the Observatory belonging to the Royal Academy at Portsmouth, where I transcribed the following Observations of the Sun's transit over the meridian from their books, viz.

1775.	First Wire.		Second Wire.		Middle Wire.			Fourth Wire.		Fifth Wire.		
	′	″	′	″	H	′	″	′	″	′	″	
♂ July 25.			15	$8\frac{1}{4}$	8	16	$9\frac{1}{2}$					☉'s 1st Limb.
						18	23	19	$23\frac{1}{2}$			☉'s 2d Limb.
☿ —— 26.	18	5	19	$5\frac{1}{2}$	8	20	$5\frac{1}{2}$					☉'s 1st Limb.
						22	$19\frac{1}{2}$	23	$19\frac{1}{2}$	24	$19\frac{1}{2}$	☉'s 2d Limb.
♃ —— 27.			23	0	8	24	$0\frac{1}{2}$					☉'s 1st Limb.
						16	$14\frac{1}{2}$	27	$14\frac{1}{2}$			☉'s 2d Limb.

We then compared the Watch with the Clock as follows:

Time by the Clock.			Time by Watch K.			
H	′	″	H	′	″	
10	5	0	2	6	$56\frac{1}{2}$	By W. Wales.
	6	0		7	56	By Mr. Witchell.
	7	0		8	$55\frac{1}{2}$	By Capt. Cook.

Mr Witchell, Head Maſter of the Royal Academy at Portſmouth, has ſince favoured me with the following Obſervations

1775	Firſt Wire	Second Wire	Middle Wire	Fourth Wire	Fifth Wire	
	″	″	H ′ ″	′ ″		
☽ July 31	37 37½	38 37¼	8 39 37½			☉'s 1ſt Limb
			41 50½	42 50½	43 50½	☉'s 2d Limb
♂ Aug 1	41 31	42 30½	8 43 30¼			☉'s 1ſt Limb
			45 43½	46 42½	47 42½	☉'s 2d Limb

Hence it appears, that the Watch was too faſt for mean time, at Portſmouth, by 0h. 33′ 1″½, and of courſe it gave the longitude of Portſmouth 1° 22′ 56″ Weſt of Greenwich, according to the mode of reckoning I have followed ſince leaving the Cape of Good Hope The true longitude of the Obſervatory at Portſmouth is 1° 6′ 15″ Weſt, and therefore the error of the Watch in our run from the Cape is 0° 16′ 41″¼ If we ſuppoſe it to have gone all the voyage at the rate it went at Greenwich before its ſetting out, it will place Portſmouth 316° 10′ 18″ Eaſt of Drake's Iſland, inſtead of 360°+3° 9′ 52″¼, conſequently the total error of the Watch in the whole voyage or three years and twenty days, is 46° 59′ 34″ Moreover, ſeeing that the Watch was too faſt for mean time as above if we allow it to have gained 13″,528 each day ſince leaving Fayal, as it was found to do there, the difference of longitude between that place and Portſmouth will be 27° 34′ 35″¼; that is, 28° 41′ 5″¼ between Fayal and Greenwich; Fayal being ſo much to the Weſt

On Monday I brought the Watch up to London with me in a poſt chaiſe; and on Tueſday, Auguſt 1, carried it down to Greenwich in a coach, and delivered it to the Rev Mr Maſkelyne, his Majeſty's Aſtronomer Royal On comparing it with the Tranſit Clock there, we found that the Watch ſhewed 0 h 56′, when the Tranſit Clock ſhewed 9 h 3′ 24″ The Sun's tranſit that day was at 8 h 42′ 18″,36 from whence it appears that the mean time of comparing the Watch was 0 h 26′ 55″,6, and of courſe that the Watch was too faſt for mean time at Greenwich by 0 h 29′ 4″,4; and therefore allowing its Fayal rate, it makes the difference of Longitude between Portſmouth and Greenwich 4′ 23″,85 in time, or 1° 5′ 51″

The Rev Mr Maſkelyne found that this Watch loſt at the rate of 0″½ a day on mean time between March 24th and April 25th 1772, before it went on the voyage; and that it gained at the rate of 13″,0 a day from Auguſt 1ſt to September 1ſt 1775, after its return.

From the preceding account it appears to what an amazing degree of accuracy the ingenious Inventor of this Watch had brought this branch of mechanics ſo long ago as the year 1762, or 3; and at the ſame time what room is yet left for future improvements by other Artiſts but let no man boaſt that he has excelled him, until his machines have undergone as rigorous a trial as this has done

Comparisons of the Time-keepers with each other.

Comparisons of Mr. Arnold's Watches, Nos. 1 and 2 with each other.

1772.	Time by Watch No. 1. H ′ ″	Time by Watch No. 2. H ′ ″
♀ July 10.	Both Watches were set 12″ too slow for mean time.	
♄ —— 11.	No. 2 stopped.	
☉ —— 12.	0 30 0	1 23 45
☽ —— 13.	0 29 4	1 23 0
♂ —— 14.	0 43 0	1 37 0½
☿ —— 15.	0 34 48	1 29 0
♃ —— 16.	0 32 43	1 27 0
♀ —— 17.	1 1 39½	1 56 0
♄ —— 18.	0 55 37½	1 50 0
☉ —— 19.	0 56 43½	1 51 0
☽ —— 20.	0 51 48½	1 46 0
♂ —— 21.	1 10 47½	2 5 0
☿ —— 22.	1 14 51½	2 9 0
♃ —— 23.	1 14 53	2 9 0
♀ —— 24.	1 14 51	2 9 0
♄ —— 25.	1 17 50	2 12 0
☉ —— 26.	1 21 48	2 16 0
☽ —— 27.	1 9 47	2 4 0
♂ —— 28.	1 57 46½	2 52 0
☿ —— 29.	0 47 46½	1 42 0
♃ —— 30.	11 26 0	0 20 16
♀ —— 31.	0 59 0	1 53 12½
♄ Aug. 1.	0 37 0	1 31 7
☉ —— 2.	1 36 0	2 29 59½
☽ —— 3.	1 29 0	2 22 55½
♂ —— 4.	1 34 0	2 27 55½
☿ —— 5	1 31 0	2 24 54½
♃ —— 6.	1 53 0	2 46 55
♀ —— 7.	1 32 0	2 25 55
♄ —— 8.	1 31 0	2 24 56
☉ —— 9.	1 44 0	2 37 50
☽ —— 10.	1 47 0	2 40 48
♂ —— 11.	2 9 0	3 2 48½
☿ —— 12.	1 41 0	2 34 46½
♃ —— 13.	1 44 0	2 37 37½
♀ —— 14.	2 8 0	3 1 30
♄ —— 15.	2 5 0	2 58 29½
☉ —— 16.	2 5 0	2 58 29
☽ —— 17.	2 54 0	3 47 34

1772.	Time by Watch No. 1. H ′ ″	Time by Watch No. 2. H ′ ″
♂ Aug. 18.	1 46 0	2 39 34
☿ —— 19.	1 53 0	2 46 40
♃ —— 20.	1 24 0	2 17 49
♀ —— 21.	2 7 0	3 0 54½
♄ —— 22.	1 33 0	2 27 4
☉ —— 23.	1 10 0	2 4 14½
☽ —— 24.	1 16 0	2 10 22
♂ —— 25.	1 8 0	2 2 25
☿ —— 26.	0 59 0	1 53 31½
♃ —— 27.	1 0 0	1 54 41
♀ —— 28.	1 6 0	2 0 49½
♄ —— 29.	0 36 0	1 30 58½
☉ —— 30.	0 42 0	1 37 10
☽ —— 31.	0 50 0	1 45 19
♂ Sept. 1.	0 21 0	1 16 20
☿ —— 2.	0 45 0	1 40 26
♃ —— 3.	0 53 0	1 48 29
♀ —— 4.	0 31 0	1 26 34
♄ —— 5.	0 37 0	1 32 50½
☉ —— 6.	0 38 0	1 34 13
☽ —— 7.	0 27 0	1 23 29½
♂ —— 8.	0 28 0	1 24 36
☿ —— 9.	1 1 0	1 57 42
♃ —— 10.	0 43 0	1 39 49½
♀ —— 11.	0 53 0	1 49 51
♄ —— 12.	1 10 0	2 7 2½
☉ —— 13.	0 59 0	1 55 57
☽ —— 14.	0 43 0	1 40 22½
♂ —— 15.	1 21 0	2 18 31½
☿ —— 16.	1 0 0	1 57 45½
♃ —— 17.	1 9 0	2 7 4
♀ —— 18.	1 7 0	2 5 5½
♄ —— 19.	0 56 0	1 54 16
☉ —— 20.	1 30 0	2 28 17
☽ —— 21.	1 26 0	2 24 17
♂ —— 22.	1 8 0	2 6 19
☿ —— 23.	1 27 0	2 25 55½
♃ —— 24.	1 11 0	2 9 35½
♀ —— 25.	1 34 0	2 31 21
♄ —— 26.	1 23 0	2 20 27

Comparisons of Mr Arnold's Watches Nos 1 and 2 with each other

1772	Time by Watch No 1 (H)	Time by Watch No 2 (H)	1772	Time by Watch No 1 (H)	Time by Watch No 2 (H)
☉ Sept 27	0 12 0	1 7 45	♃ Oct 15	23 41 0	16 22 45
☽ —— 28	1 9 0	2 4 55	♀ —— 16	23 58 0	16 40 10½
♂ —— 29	1 17 0	2 13 1	♄ —— 17	23 13 0	15 31 12
☿ —— 30	1 4 0	2 0 14	☉ —— 18	23 12 0	15 16 26
♃ Oct 1	1 1 0	1 57 21½	☽ —— 19	23 2 0	14 42 27
♀ —— 2	0 41 0	1 36 46½	♂ —— 20	23 6 0	13 43 41½
♄ —— 3	0 41 0	1 36 33	☿ —— 21	22 58 0	13 36 10
☉ —— 4	0 42 0	1 37 22	♃ —— 22	23 10 0	9 5 5
☽ —— 5	0 22 0	0 29 34	♀ —— 23	23 6 0	4 48 29
♂ —— 6	0 27 0	23 32 55	♄ —— 24	22 52 0	4 20 11
☿ —— 7	0 25 0	22 17 31	☉ —— 25	22 38 0	4 5 39
♃ —— 8	0 14 0	21 47 5	☽ —— 26	22 28 0	3 15 5
♀ —— 9	0 47 0	22 17 1	♂ —— 27	22 31 0	3 15 5[illegible]½
♄ —— 10	0 14 0	21 47 5	☿ —— 28	22 26 0	2 35 11½
☉ —— 11	0 7 0	20 54 3	♃ —— 29	22 7 0	1 16 37½
☽ —— 12	0 11 0	20 22 28	♀ —— 30	22 26 0	1 36 9
♂ —— 13	23 55 0	19 57 0	♄ —— 31	22 24 0	1 31 45
☿ —— 14	23 41 0	17 18 2	☉ Nov 1	22 26 0	1 37 10

Comparisons of the Watch K, with Mr Arnold's No 3

1772	Time by A, No 3 (H)	Time by Watch K (H)	1772	Time by A, N 3 (H)	Time by Watch K (H)
♀ July 10	The Watch K was set 0″ 7 too fast, and the Watch A, N 3, too slow by 10″½ for mean time		♃ July 23	0 31 0	0 39 57½
			♀ —— 24	0 42 0	0 51 44½
			♄ —— 25	0 52 0	1 2 33½
♄ —— 11	0 7 16	0 8 0	☉ —— 26	0 51 0	1 2 22
☉ —— 12	0 57 36	0 59 0	☽ —— 27	0 46 0	0 58 16½
☽ —— 13	0 5 2½	0 7 0	♂ —— 28	1 3 0	1 16 10
♂ —— 14	0 6 21	0 9 0	☿ —— 29	1 10 0	1 24 5
☿ —— 15	0 20 45	0 24 0	♃ —— 30	1 59 0	2 14 2
♃ —— 16	0 31 3½	0 35 0	♀ —— 31	11 25 0	11 40 54
♀ —— 17	0 22 25½	0 27 0	☉ Aug 2	0 47 0	1 5 1
♄ —— 18	0 18 44½	0 24 0	☽ —— 3	0 59 0	1 18 14½
☉ —— 19	0 34 3	0 40 0	♂ —— 4	0 54 0	1 14 32½
☽ —— 20	0 28 0	0 34 10	☿ —— 5	1 22 0	1 43 53½
♂ —— 21	0 28 0	0 35 24½	♃ —— 6	1 6 0	1 29 13½
☿ —— 22	0 30 0	0 38 11½	♀ —— 7	0 54 0	1 18 35
			♄ —— 8	0 58 0	1 24 0½

Comparisons of the Watch K. with Mr Arnold's No. 3.

1772.	Time by A, No. 3. H ′ ″	Time by Watch K. H ′ ″	1772.	Time by A, No. 3. H ′ ″	Time by Watch K. H ′ ″
☉ Aug. 9.	0 56 0	1 23 24½	♂ Sept. 22.	23 45 0	1 14 23
☽ —— 10.	0 58 0	1 26 50½	☿ —— 23.	23 49 0	1 19 49
♂ —— 11.	1 1 0	1 31 15	♃ —— 24.	23 49 0	1 21 16
☿ —— 12.	1 4 0	1 35 41	♀ —— 25.	23 56 0	1 29 44
♃ —— 13.	2 2 0	2 35 13	♄ —— 26.	23 48 0	1 23 10
♀ —— 14.	1 2 0	1 36 38½	☉ —— 27.	23 41 0	1 17 25½
♄ —— 15.	1 15 0	1 51 7½	☽ —— 28.	23 46 0	1 23 40½
☉ —— 16.	1 0 0	1 37 35	♂ —— 29.	23 31 0	1 9 54½
☽ —— 17.	0 47 0	1 26 3½	☿ —— 30.	23 32 0	1 12 21
♂ —— 18.	0 43 0	1 23 29	♃ Oct. 1.	23 17 0	0 58 50
☿ —— 19.	1 11 0	1 52 49½	♀ —— 2.	23 18 0	1 1 1
♃ —— 20.	1 23 0	2 6 6	♄ —— 3.	23 1 0	0 45 22½
♀ —— 21.	0 35 0	1 19 18½	☉ —— 4.	22 50 0	0 35 41
♄ —— 22.	0 22 0	1 7 35½	☽ —— 5.	22 41 0	0 27 55
☉ —— 23.	0 18 0	1 4 50½	♂ —— 6.	22 44 0	0 32 9½
☽ —— 24.	0 8 0	0 56 8½	☿ —— 7.	22 45 0	0 34 20½
♂ —— 25.	0 7 0	0 56 26½	♃ —— 8.	22 43 0	0 33 40
☿ —— 26.	23 55 0	0 45 43	♀ —— 9.	22 43 0	0 35 10½
♃ —— 27.	23 54 0	0 46 0½	♄ —— 10.	22 26 0	0 19 33
♀ —— 28.	23 45 0	0 38 16	☉ —— 11.	22 29 0	0 23 44½
♄ —— 29.	23 37 0	0 31 36	☽ —— 12.	22 18 0	0 13 53
☉ —— 30.	23 37 0	0 33 0½	♂ —— 13.	22 6 0	0 3 6
☽ —— 31.	23 20 0	0 17 20½	☿ —— 14.	22 2 0	0 0 20
♂ Sept. 1.	23 22 0	0 20 48	♃ —— 15.	21 53 0	23 52 34½
☿ —— 2.	23 21 0	0 21 5½	♀ —— 16.	21 37 0	23 37 48
♃ —— 3.	23 27 0	0 28 19½	♄ —— 17.	21 21 0	23 22 59½
♀ —— 4.	23 28 0	0 30 28	☉ —— 18.	21 21 0	23 24 7½
♄ —— 5.	23 37 0	0 40 34	☽ —— 19.	21 4 0	23 8 15½
☉ —— 6.	23 26 0	0 30 48½	♂ —— 20.	21 4 0	23 9 27½
☽ —— 7.	23 18 0	0 24 7½	☿ —— 21.	21 4 0	23 10 38
♂ —— 8.	23 30 0	0 37 46	♃ —— 22.	21 0 0	23 7 47
☿ —— 9.	23 21 0	0 30 24	♀ —— 23.	20 58 0	23 7 0
♃ —— 10.	23 23 0	0 33 49½	♄ —— 24.	20 42 0	22 52 23½
♀ —— 11.	23 36 0	0 48 28½	☉ —— 25.	20 32 0	22 43 47
♄ —— 12.	23 26 0	0 40 13½	☽ —— 26.	20 29 0	22 42 9½
☉ —— 13.	23 35 0	0 50 58½	♂ —— 27.	20 24 0	22 38 29½
☽ —— 14.	23 36 0	0 53 29½	☿ —— 28.	20 20 0	22 35 56½
♂ —— 15.	23 42 0	1 1 20	♃ —— 29.	20 19 0	22 36 26
☿ —— 16.	23 48 0	1 9 9	♀ —— 30.	20 9 0	22 28 2½
♃ —— 17.	23 40 0	1 2 40	♄ —— 31.	20 13 0	22 33 28½
♀ —— 18.	23 53 0	1 17 4½	☉ Nov. 1.	20 20 0	22 41 59
♄ —— 19.	23 38 0	1 3 34½	☽ —— 2.	19 49 0	22 12 21½
☉ —— 20.	23 42 0	1 9 12½	☽ —— 16.	20 38 0	23 23 5½
☽ —— 21.	23 48 0	1 16 21½	☿ —— 18.	22 36 0	22 35 1½

Comparisons of the Watches with each other

1772	Time by A, N 3 H	Time by Watch K H	1773	Time by A, N 3 H	Time by Watch K H ″
♃ Nov 19	23 12 0	23 12 32¼	♀ Jan 1	22 20 0	23 17 18½
♀ —— 20	23 12 0	23 13 55¼	♄ —— 2	22 18 0	23 16 52
♄ —— 21	21 3 0	21 5 55½	☉ —— 3	22 34 0	23 34 28¼
☉ —— 22	22 18 0	22 22 11¼	☽ —— 4	22 21 0	23 23 0
☽ —— 23	22 25 0	22 30 20	♂ —— 5	22 0 0	23 3 27½
♂ —— 24	22 27 0	22 33 29½	☿ —— 6	21 46 0	22 50 53
☿ —— 25	22 33 0	22 40 42¼	♃ —— 7	21 7 0	22 13 21½
♃ —— 26	22 46 0	22 54 55¼	♀ —— 8	21 4 0	22 11 51½
♀ —— 27	22 31 0	22 41 6¼	♄ —— 9	21 0 0	22 9 26
♄ —— 28	22 31 0	22 42 18	☉ —— 10	20 50 0	22 1 2½
☉ —— 29	22 46 0	22 58 29	☽ —— 11	20 31 0	21 43 36½
☽ —— 30	23 14 0	23 27 48½	♂ —— 12	20 19 0	21 33 12½
♂ Dec 1	22 53 0	23 8 2½	☿ —— 13	20 21 0	21 36 50
☿ —— 2	22 29 0	22 45 16½	♃ —— 14	20 16 0	21 33 34½
♃ —— 3	22 27 0	22 44 31	♀ —— 15	20 11 0	21 30 18
♀ —— 4	22 15 0	22 33 44	♄ —— 16	20 10 0	21 31 2
♄ —— 5	22 21 0	22 40 56¼	☉ —— 17	20 14 0	21 36 42½
☉ —— 6	22 33 0	22 54 0½	☽ —— 18	20 11 0	21 35 16½
☽ —— 7	22 26 0	22 48 8¼	♂ —— 19	20 18 0	21 43 51½
♂ —— 8	22 42 0	23 5 37	☿ —— 20	20 8 0	21 35 25
☿ —— 9	22 23 0	22 48 2	♃ —— 21	20 10 0	21 39 0½
♃ —— 10	22 6 0	22 32 27½	♀ —— 22	20 0 0	21 30 33
♀ —— 11	22 4 0	22 31 54	♄ —— 23	20 1 0	21 33 8½
♄ —— 12	22 19 0	22 48 22	☉ —— 24	19 22 0	20 55 34½
☉ —— 13	22 14 0	22 44 42	☽ —— 25	19 23 0	20 58 12¼
☽ —— 14	22 8 0	22 39 57½	♂ —— 26	19 16 0	20 52 46
♂ —— 15	21 57 0	22 30 15	☿ —— 27	19 14 0	20 52 22½
☿ —— 16	22 3 0	2- 37 39½	♃ —— 28	19 24 0	21 4 1
♃ —— 17	21 49 0	22 25 3½	♀ —— 29	18 58 0	20 39 39½
♀ —— 18	21 45 0	22 22 27½	♄ —— 30	19 5 0	20 48 18½
♄ —— 19	21 40 0	22 18 48½	☉ —— 31	19 0 0	20 44 58½
☉ —— 20	21 32 0	22 12 14	☽ Feb 1	18 43 0	20 29 37
☽ —— 21	21 28 0	22 9 38	♂ —— 2	18 35 0	20 23 15½
♂ —— 22	21 13 0	21 56 1½	☿ —— 3	18 31 0	20 20 59
☿ —— 23	21 1 0	21 45 24½	♃ —— 4	18 26 0	20 17 45
♃ —— 24	21 11 0	21 56 47½	♀ —— 5	18 27 0	20 20 28
♀ —— 25	21 21 0	22 8 12½	♄ —— 6	18 36 0	20 30 58½
♄ —— 26	21 24 0	22 12 36	☉ —— 7	18 15 0	20 11 29½
☉ —— 27	21 37 0	22 27 2	☽ —— 8	18 7 0	20 5 6½
☽ —— 28	21 47 0	22 38 28½	♂ —— 9	18 16 0	20 15 51¼
♂ —— 29	21 55 0	22 47 56	☿ —— 10	17 55 0	19 56 30¼
☿ —— 30	22 0 0	22 54 21½	♃ —— 11	17 37 0	19 40 7
♃ —— 31	22 8 0	23 3 51	♀ —— 12	17 37 0	19 41 45½
			♄ —— 13	17 16 0	19 22 23½

Comparisons of the Watches with each other

1773	Time by A, N° 3 H ′ ″	Time by Watch K H ′ ″	1773	Time by A, N° 3 H ′ ″	Time by Watch K H ′ ″
☉ Feb 14	17 5 0	19 13 0½	♂ March 30	10 25 0	13 44 59
☽ —— 15	17 14 0	19 23 38	☿ —— 31	9 31 0	12 52 34½
♂ —— 16	16 57 0	19 8 16	♃ April 1	10 32 0	13 56 54
☿ —— 17	17 29 0	19 41 57½	♀ —— 2	9 51 0	13 16 22¼
♃ —— 18	16 27 0	18 41 32	♄ —— 3	9 41 0	13 8 12¼
♀ —— 19	15 59 0	18 15 8	☉ —— 4	9 33 0	13 2 6
♄ —— 20	15 52 0	18 9 43½	☽ —— 5	10 16 0	13 47 2¼
☉ —— 21	15 45 0	18 4 23	♂ —— 6	9 35 57¼	13 8 47¼
☽ —— 22	15 29 0	17 50 1¼	☿ —— 7	9 41 13¼	13 15 52½
♂ —— 23	15 31 0	17 53 41¼	♃ —— 8	9 27 33½	13 3 59¼
☿ —— 24	15 19 0	17 43 19½	♀ —— 9	9 33 45¼	13 12 3¼
♃ —— 25	15 21 0	17 47 0¼	♄ —— 10	9 20 7	13 0 13¼
♀ —— 26	15 7 0	17 34 42	☉ —— 11	9 21 18½	13 2 20
♄ —— 27	15 3 0	17 32 21	☽ —— 12	9 31 36¼	13 15 24¼
☉ —— 28	14 38 0	17 8 53	♂ —— 13	9 44 46½	13 30 28¼
☽ March 1	14 28 0	17 0 25¼	☿ —— 14	9 3 17	12 50 43½
♂ —— 2	14 35 0	17 8 57	♃ —— 15	9 34 32¼	13 23 46¼
☿ —— 3	14 26 0	17 1 31¼	♀ —— 16	9 12 56	13 3 57½
♃ —— 4	14 4 0	16 41 9¼	♄ —— 17	9 2 17	12 55 12¼
♀ —— 5	13 55 0	16 33 49	☉ —— 18	9 25 33¼	13 20 12½
♄ —— 6	13 39 0	16 19 32½	☽ —— 19	8 53 9	12 49 31½
☉ —— 7	13 25 0	16 7 13½	♂ —— 20	9 19 18	13 17 34
☽ —— 8	13 22 0	16 5 57	☿ —— 21	9 0 49¼	13 0 42½
♂ —— 9	13 19 0	16 4 35	♃ —— 22	9 2 0	13 3 37
☿ —— 10	12 54 0	15 41 5½	♀ —— 23	9 47 0	12 50 22¼
♃ —— 11	12 51 0	15 39 39	♄ —— 24	8 58 0	13 3 4¼
♀ —— 12	12 36 0	15 26 17	☉ —— 25	8 37 0	12 43 57
♄ —— 13	12 28 0	15 19 56	☽ —— 26	9 58 0	14 6 42½
☉ —— 14	12 17 0	15 10 35½	♂ —— 27	8 45 0	12 55 20½
☽ —— 15	11 57 0	14 52 10¼	☿ —— 28	10 5 0	14 17 11¼
♂ —— 16	11 40 0	14 36 42½	♃ —— 29	8 57 0	13 10 54
☿ —— 17	11 40 0	14 38 17¼	♀ —— 30	8 39 0	12 54 34¼
♃ —— 18	11 14 0	14 13 54	♄ May 1	10 48 0	15 5 29½
♀ —— 19	11 11 0	14 12 29	☉ —— 2	8 26 0	12 45 13¼
♄ —— 20	10 56 0	13 59 4	☽ —— 3	5 15 0	9 35 53¼
☉ —— 21	10 42 0	13 46 38	♂ —— 4	6 52 0	11 14 12½
☽ —— 22	10 35 0	13 41 19½	☿ —— 5	8 18 0	12 42 22
♂ —— 23	10 21 0	13 29 4	♃ —— 6	8 46 0	13 12 6¼
☿ —— 24	10 0 0	13 9 37¼	♀ —— 7	8 23 0	12 50 47¼
♃ —— 25	10 9 0	13 20 21¼	♄ —— 8	8 27 0	12 56 23½
♀ —— 26	10 54 0	14 7 1	☉ —— 9	8 38 0	13 8 59½
♄ —— 27	10 30 0	13 44 42	☽ —— 10	8 22 0	12 54 23¼
☉ —— 28	9 39 0	12 55 30¼	♂ —— 11	8 45 0	13 18 55
☽ —— 29	12 14 0	15 23 27¼	☿ —— 12	8 27 0	13 2 24½

Comparisons of the Watches with each other

1773	Time by A, N 3			Time by Watch K			1773	Time by A, N 3			Time by Watch K		
	H	′	″	H	′	″		H	′	″	H	′	″
♃ May 13	8	21	0	12	58	0½	☿ May 26	7	27	0	12	26	37¼
♀ —— 14	8	14	0	12	52	39	♃ —— 27	8	18	0	13	19	26¼
♄ —— 15	8	8	0	12	48	12¼	♀ —— 28	7	48	0	12	50	55
☉ —— 16	7	58	0	12	39	57	♄ —— 29	7	30	0	12	34	34
☽ —— 17	7	51	0	12	34	39¼	☉ —— 30	9	57	0	15	3	10¼
♂ —— 18	7	44	0	12	29	15	☽ —— 31	7	19	0	12	26	48¼
☿ —— 19	8	35	0	13	21	56	♂ June 1	9	22	0	14	31	37
♃ —— 20	8	48	0	13	36	37½	☿ —— 2	8	43	0	13	54	6½
♀ —— 21	8	14	0	13	4	26¼	♃ —— 3	7	32	0	12	45	6¼
♄ —— 22	7	15	0	12	7	16¼	♀ —— 4	7	58	0	13	13	6¼
☉ —— 23	7	18	0	12	12	12½	♄ —— 5	8	7	0	13	24	5½
☽ —— 24	8	50	0	13	46	8½	☉ —— 6	7	7	0	12	25	48
♂ —— 25	7	29	0	12	26	55½	☽ —— 7	7	24	0	12	44	43¼

Comparisons of the Watch K with Mr Arnold's Watch No 1

1772	Time by Watch K			Time by Watch No 1			1773	Time by Watch K			Time by Watch No 1		
	H	′	″	H	′	″		H	′	″	H	′	″
♂ July 21	5	29	43½	5	29	0	♀ Jan 8	19	52	0	19	7	10
☿ Aug 12	5	6	0	5	4	21	♃ May 20	16	26	28¼	14	38	0
☉ —— 30	6	19	57	6	17	0	♂ June 22	9	8	0	7	0	33¼
☉ Sept 13	22	21	13¼	22	16	0	♂ July 6	7	56	58¼	5	41	0
♄ —— 26	23	1	47	22	54	0	☿ —— 28	7	38	34½	7	5	0
☽ Oct 12	3	0	0	2	49	24½	♃ Aug 5	8	6	51	5	28	0
☽ —— 19	21	30	0	21	17	9¼	♄ —— 14	8	47	11¼	6	0	0
☽ Dec 14	20	41	50½	20	9	0	♃ —— 19	5	36	47	2	45	0
♂ —— 22	19	51	38¼	19	15	0	☽ Oct 4	8	38	52	5	4	0

OBSERVATIONS

OF THE

MOON's Diſtance from the SUN and Fixed STARS,

FOR

Determining the LONGITUDE at SEA;

Made on Board his MAJESTY's Sloop RESOLUTION,

In her late Voyage on Diſcoveries towards the South.

4 E

1

1772.	Time by Watch K. H ′ ″	Altitude of the ☼'s L. L. or *. ° ′	Moon's Altitude. ° ′	Distance of the ☽'s L. from ☼'s or *. ° ′ ″	Latitude of the Ship N. ° ′	Longitude West of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.
♂ July 21.	19 57 50	29 51	45 30 U.	95 21 30	43 41⅔	9 59¼		2	☽ and ☉: Cloudy.
	21 50 4¼	49 47	28 4⅓ U.	94 42 36	43 40	9 40¼		5	☽ and ☉.
	22 18 11½	54 25⅔	23 7 U.	94 32 50	43 38½	9 42½		3	☽ and ☉.
☿ —— 22.	18 59 48	18 44⅔	59 4 U.	84 35 0	42 41⅓	10 9½		3	☽ and ☉.
	19 5 34	19 46⅓	58 56⅔ U.	84 33 50	42 41⅓	9 57½		3	☽ and ☉.
♃ —— 23.	19 17 13½	20 25⅘	64 41⅓ U.	73 13 54	40 32	11 24½	65½	5	☽ and ☉.
♂ Aug. 4.	3 56 50⅓	48 16⅔	44 40½ U.	72 35 40	28 28⅓	17 36½	76½	6	☽ and ☉: Very hazy.
☿ —— 5.	4 12 31	45 4	36 45 U.	85 59 0	27 38½	18 55½	77½	3	☽ and ☉.
♀ —— 7.	Evening.	9 22⅓	42 22⅔ U.	112 48 35	23 34½	19 50		3	☽ and ☉.
♂ —— 18.	20 10 45½	16 56 6/7	47 5 U.	114 1 47	10 50	19 16¼	80	7	☽ and ☉.
♄ —— 22.	20 6 50½	19 18⅓	77 43⅔ L.	68 32 30	6 57⅓	16 41¼	80	5	☽ and ☉.
☉ —— 23.	20 28 18	25 48	76 11 L.	56 16 45	6 29	14 54	78	1	☽ and ☉.
	20 50 45	31 21½	77 35¾ L.	56 10 52	6 29	14 59	78	4	☽ and ☉.
♀ Sept. 4.	2 36 11	54 42½	29 52⅔ U.	94 26 42	0 49	9 45½		6	☽ and ☉.
	3 16 46	44 48	38 54	94 42 30	0 49	9 45½		6	☽ and ☉.
♄ —— 5.	3 9 36	46 33	25 17⅓ U.	107 5 24	0 54⅓	9 49½		7	☽ and ☉.
	4 7 16	31 58	38 9½ U.	107 27 17	0 54⅓	9 47½		4	☽ and ☉.
☉ —— 6.	4 9 58½	30 32½	28 8⅓ U.	119 33 28	0 31	8 9⅓		8	☽ and ☉: Very Cloudy.
☽ —— 7.	7 33 36½		62 59½ U.	52 47 0 ‡	0 18	7 40½		4	☽ & Antares.
♂ 8.	8 2 16	43 31 9/10	59 16⅔ U.	65 26 48 ‡	South.	9 14½		5	☽ & Antares.
♄ —— 12.	9 5 0	76 21	28 24⅔ L.	65 14 20 †	5 0	14 52½		9	☽ & α Aquilæ.
	17 24 18½	69 5½	28 57½ L.	62 52 8 ‡	5 0	14 14½		5	☽ and Aldebaran.
♃ —— 17.	21 24 13½	36 50⅔	22 56 U.	110 15 42	12 16⅙	17 50		14	☽ and ☉.
♄ —— 19.	20 18 32	19 31¼	51 9⅚ U.	87 26 35	15 24	19 54		6	☽ & ☼: Great mot. & hazy.
	22 1 39½	43 47	35 0⅓ U.	86 56 47	15 33	20 12		6	☽ & ☉: Violent mot.
☽ —— 21.	21 31 20⅓	35 18⅞	54 31½ U.	62 26 10	18 30	21 12½		10	☽ and ☉.
♂ —— 29.	8 13 47½	55 11⅓	22 51 1/7 L.	73 37 11 ‡				7	☽ & α Aquilæ. Very hazy.
♃ Oct. 1.	3 59 37½	37 17⅔	73 21⅓ U.	64 11 23	27 29	17 45		5	☽ & ☼: Ramsden's Quad.
	4 4 28	35 59⅞	74 31 1/12 U.	64 13 15	27 29	17 42		6	☽ & ☼: Mr. Smith's ditto.
	4 38 47½	29 1	79 44⅓ U.	64 24 15	27 28½	18 3		5	☽ & ☼: Mr. Clerke's ditto.
		21 26	80 44⅓ U.	64 32 57	27 28½	17 14::		5	☽ & ☼: Dollond's ditto.
♀ —— 2.	3 12 36½	46 3⅔	53 14⅓ U.	76 53 20	27 44⅓	16 39½		6	☽ and ☉.
♄ —— 3.	3 26 30	41 59	45 22 U.	89 29 7½	28 14⅔	15 39		4	☽ and ☉.
☽ —— 5.	4 4 33	30 5½	33 56 U.	113 29 59	28 54⅓	11 9⅓		14	☽ & ☉: Very uncert.

1772	Time by Watch K H ′ ″	Altitude of the ☉'s L. L. or *	Moon's Altitude	Distance of ☽'s L. from ☉'s or Star ° ′ ″	Latitude of the Ship S ° ′	Longitude West of Greenwich ° ′	Thermom.	No. of Obs.	Objects
☽ Oct 5	4 9 41½	29 40 3/5	35 0 1/5 U	113 32 48	28 54 1/3	11 35		5	☽ and ☉ Less uncert
♄ —— 10	7 58 58½	42 53 1/10	27 29 1/6 L	72 24 2 †		6 52½		9	☽ and α Aquilæ
☉ —— 11	8 5 50¼	40 52	19 0 1/5 L	83 14 15 †		5 51		8	☽ and α Aquilæ
	13 37 19½	35 4	41 0 3/5 L	43 30 7 †		6 35½		7	☽ and Aldebaran
						East			
♄ —— 16	18 44 43	23 42 9/10	18 11 1/3 U	118 30 6	35 1	4 7½	57	5	☽ and ☉ Cloudy
☽ —— 19	15 25 10 1/5	33 25	31 23 1/5 L	56 25 30 ‡		8 16½		3	☽ and Aldebaran
	18 52 13½	29 34	37 43½ U	82 36 57	34 41 3/8	7 47 1/5		4	☽ and ☉
		44 18 1/3	29 45 1/6 U	82 11 54	34 43	7 48¼		6	☽ and ☉
♂ —— 20	18 13 21	21 42 1/5	43 22½ U	70 5 7	35 20½	8 5¼	60 1/5	6	☽ and ☉
	20 15 37	45 54½	37 20 U	69 22 52	35 26 1/5	7 56	60 1/5	6	☽ and ☉
♀ Dec 4	2 25 56	35 30 1/5	17 42 1/3 U	118 16 30	46 0	17 61		6	☽ and ☉ A great sea
1773									
♄ Jan 2	4 6 48	27 0 L	15 17 3/5 U	108 58 49	58 52½	10 42	31½	9	☽ and ☉ Dollond's Q
	4 29 13½	24 3 L	16 41 1/3 U	109 10 51	58 52½	8 41 1/5	31½	5	☽ and ☉ C Cook's Q
☿ —— 13	16 38 56	27 34	19 4 U	112 31 34	64 1			1	☽ and ☉
	17 0 24 1/3	29 55 1/5	17 19 1/5 U	112 23 9	64 1	39 29½		6	☽ and ☉
	17 9 5	30 49 3/5	16 39 1/10 U	112 19 44	64 1	39 49 1/5		6	☽ and ☉
♃ —— 14	17 50 21½	35 6	22 6½ U	98 53 45	63 32½		35	2	☽ and ☉
	18 8 45	36 55 L	20 25 1/3 U	98 46 35	63 32½	39 58½	35	6	☽ and ☉ With a 1 lef
	18 30 50	38 59 1/5	18 17 1/3 U	98 32 30	63 32 1/6	38 35 3/5	35	6	☽ and ☉ Without
♀ —— 27	23 48 11½	37 15 4/5	31 45 1/5 U	53 34 6	56 15	52 50	36	5	☽ and ☉ Dollond's Q
	23 57 47½	35 59 1/3	31 39 1/10 U	53 40 45	56 14½	51 7¼	36	3	☽ & ☉
	0 23 52 L	32 48 1/5	31 21 1/5 U	53 49 39	56 13 1/6	50 50	36	5	☽ & ☉
♃ Feb 11	14 26 10	20 47 1/5	30 36 U	118 28 57	52 28 1/6	70 30 1/6		5	☽ & ☉
	15 18 8	28 42 L	23 19 1/5 U	118 0 55	52 31 3/5	70 7		5	☽ & ☉
	15 39 46 L	31 39 3/5	20 29 1/5 U	117 50 57	52 32 1/3	70 12 7/8		5	☽ and ☉ Dollond's
♀ —— 12	13 45 44	15 44 4/5	42 33 1/3 U	105 20 24	53 34 1/5	72 24	34 1/5	5	☽ and ☉ Ditto
	14 22 51	21 15	38 57 U	105 6 48	53 37 1/6	73 10½	34 1/5	5	☽ and ☉ Mr Clerk's Q
		34 37 7/8	27 4½ U	104 22 34	53 43 1/6	72 40 1/5	35	4	☽ & ☉
		36 19 1/5	25 10 3/8 U	104 15 43	53 43 1/6	72 29 1/5	35	3	☽ & ☉

1773.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. or ✱. ° ′	Moon's Altitude. ° ′	Distance of the Moon's L. from Sun or Star. ° ′ ″	Latitude of the Ship S. ° ′	Longitude West of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.
☿ Feb. 17.	13 43 18	19 36	43 17¼ L.	40 52 8	57 53⅓	83 1	32	4	☽ and ☉.
	13 59 51½	21 49	44 31 L.	40 45 49	57 53⅓	83 9½	32	2	☽ and ☉.
☉ March 7.	2 6 9	20 27	10 6¼ L.	37 31 57 ‡		121 51½		3	☽ and Procyon.
♄ —— 13.	13 47 21	32 23½	11 8⅔ U.	109 53 40 ‡		136 55¼		5	☽ and ☉.
	14 3 8	33 2½	9 14¾ U.	109 43 40 ‡		136 46½		5	☽ and ☉.
☉ May 16.	8 19 47	8 9⅘	45 33¼ L.	50 49 20	40 25⅔	173 25½	51½	5	☽ and ☉.
	9 50 45	20 54⅞	44 54 L.	50 24 26	40 29½	173 3½	51½	5	☽ and ☉.
♂ June 8.	22 29 7	70 9½ T.	19 54⅔ L.	59 32 8 †	42 21¼	175 30	51½	7	☽ and Antares.
☿ —— 9.	9 52 52½	15 43½	14 56⅙ U.	114 51 37	43 49¼	179 40⅔	53½	6	☽ and ☉.
		14 51¼	25 33¼ U.	79 57 11	46 8::			4	☽ and ☉.
♄ —— 12.	9 51 59	15 52⅔	23 40⅓ U.	79 53 4	46 8::			5	☽ and ☉.
	9 59 29	16 24½	22 33 U.	79 49 58	46 8::			6	☽ and ☉.
♄ —— 26.	11 25 53	22 54¼	16 34 U.	68 6 15 ‡		197 27⅞	55	6	☽ and ☉.
☽ —— 28.	18 35 37	60 29½	47 25½ U.	53 14 34 ‡		198 11¼	50½	6	☽ and Antares.
♂ —— 29.	20 57 55½	72 0⅔	39 11¼ U.	38 12 1 †		199 19¼	51½	6	☽ and Antares.
☿ —— 30.	19 44 30		57 2 U.	23 1 28 ‡	43 8½	199 13½		2	☽ and Spica ♍.
♃ July 1.	19 25 40		61 47½ L.	62 28 0 †	43 4	202 15½		2	☽ and Aquilæ: Very cloudy.
	19 41 43½		61 52½ L.	37 43 30 †	43 4	202 28½		4	☽ and Spica ♍.
♀ —— 2.		4 12½	12 35 7/10 U.	148 51 27	43 2½	203 11¼		7	☽ and ☉: Back Obs.
☉ —— 4.	17 11 6		21 9¼ L.	36 8 19 †		205 10¼	48½	4	☽ and Antares.
♂ —— 6.	6 21 44½	6 37	7 22⅚ U.	147 24 57	41 23	209 4½	51	7	☉ and ☽: Back Obs. Hazy.
♀ —— 9.	6 18 16	8 35	20 44 U.	111 26 15	43 27		52	1	☽ and ☉.
♄ —— 10.	6 44 49½	13 8¼	18 59 U.	99 53 47::	43 33½	216 53		6	☽ and ☉: Dollond's Q.
		19 20½	8 36½ U	99 31 15::	43 33½	218 17½		2	☽ and ☉: Ramsden's.
☉ —— 11.	6 14 37½	10 37⅓	26 19¼ U.	88 56 42	43 17½	218 38	47	9	☽ and ☉: Dollond's.
	6 52 53	15 16⅙	20 39½ U.	88 45 57	43 17½	219 50	47	8	☽ and ☉: Ramsden's.
☽ —— 12.	2 41 45	63 28½	33 53½ L.	61 52 27 ‡		221 11¼	46	6	☽ and Fomalhaut.
	5 46 59	7 46¼	31 10⅙ U.	78 6 20	43 2½	220 24¼	47½	6	☽ and ☉: Dollond's Q.

1773	Time by Watch K H ′ ″	Altitude of the ☉ & L L or Star ° ′	Moon's Altitude ° ′	Diftance of the ☽ & L from ☉ or Star ° ′ ″	Latitude of the Ship S ° ′	Longitude East of Greenwich ° ′	Thermom	No of Obf	Objects
☽ July 12	7 3 32	17 13½	21 59⅚ U	77 45 2	43 2½	221 15½	47½	6	☽ and ☉ Ramfden's Q
It appears from the watch, that one or both of the foregoing altitudes of the Sun are badly obferved									
☉ —— 25	17 39 16½	83 41½	26 8 L	57 15 2 †		223 34	62	5	☽ and Antares Hazy
☽ —— 26	12 2 14	26 42	51 57½ U	77 51 36	28 46	224 57¼	67	5	☽ and ☉ Dollond's Q
	12 27 5½	22 41	56 32 U	78 1 50	28 45¼	224 28¼	67	6	☽ and ☉ Ramfden's
♂ —— 27	11 50 19	29 12½	41 32½ U	91 2 25	27 50½	225 17	69	6	☽ and ☉
	15 54 5		70 27½ L	17 10 45 †	27 47¼	225 36¼	65¼	6	☽ and Spica ♍
	16 23 53	21 19½	66 20½ L	80 52 5 †		224 50¼	65¼	6	☽ and α Aquilæ
☿ —— 28	12 18 25	25 32½	36 38⅜ U	104 40 32	27 45	224 39	68	6	☽ and ☉
♃ —— 29	12 51 57½	12 22	32 20½ U	118 15 34	27 26⅙	224 25	70	6	☽ and ☉ Very hazy
♄ —— 31	13 47 41	9 32⅞	20 59½ U	145 27 8	26 9⅙	225 33¾	68	8	☽ and ☉ Back Obf
	15 59 52	79 42¼	49 39½ U	30 17 11 †		225 24½	67¼	6	☽ and Antares
☽ Aug 2	19 21 55½		68 47¼ U	59 17 26 †	22 50	226 51	69	6	☽ and Antares
♂ —— 3	18 28 35½		43 52 L	73 9 38 †	21 48¼	227 4		6	☽ and Antares
♄ —— 7	6 35 12	37 33	4 54¼ U	119 14 25	18 9¼			2	☽ and ☉ ☽ faint
☉ —— 8	6 38 57½	37 2½	15 6 U	108 9 9	17 44½	222 15		6	☽ and ☉
☽ —— 9	6 53 24	38 30¼	22 30 U	97 3 35	17 24⅛	220 17¼		4	☽ and ☉
☿ —— 11	5 59 10	25 6	49 37 U	75 19 48	17 12¼	216 18		5	☽ and ☉ Hazy
♀ —— 13	5 29 21½	16 13½	52 41⅜ U	53 1 24 ‡		213 15⅞	78	6	☽ and ☉
	5 54 40	21 51½	53 58¼ U	52 55 27 †		213 17¼	78	6	☽ and ☉
♄ —— 14	5 37 7	16 27½	46 53 L	41 28 19 †	17 43½	211 52	77	4	☽ and ☉ ☽ very faint.
♃ Sept 9	6 10 7		48 2¼ U	83 30 39 ‡	16 45½	208 12⅞	79	6	☽ & ☉ Oonalafhka Harbour
	6 40 36		43 32¼ U	83 23 27 ‡	16 45½	208 29½	79	6	☽ & ☉ Oonalafhka Harbour
♀ —— 10	6 53 54		48 34⅛ U	72 3 12 †	16 45½	208 3¼	80¼	6	☽ & ☉ Oonalafhka Harbour
	7 15 26½		52 38½ U	60 25 39 ‡	16 25½	207 58⅛	76	6	☽ & ☉ Oonalafhka Harbour
♂ —— 21	16 30 29½	14 45	75 3 L	59 53 44	18 29	204 8	80¼	3	☽ & ☉ Very cloudy
	15 43 54½	11 25½	71 56½ L	59 57 28	18 29	204 4¼	80¼	5	☽ & ☉ Very cloudy
♀ —— 24	14 9 21	37 32½	42 3½ U	99 37 8	19 32¼	199 59½	74¼	6	☽ and ☉
	14 31 12½	32 34½	47 0 U	99 47 14	19 33¼	199 3½	74¼	3	☽ and ☉ Cloudy

1773.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. or Star. ° ′	Moon's Altitude. ° ′	Distance of the ☽'s L. from the ☉'s or Star. ° ′ ″	Latitude of the Ship S. ° ′	Longitude East of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.
♄ Sept. 25.	13 37 39	46 24⅛	20 17¼ U.	112 11 58	19 55¼	198 0½	73¼	6	☽ and ☉.
☿ —— 29.	20 41 41½	49 23⅔	57 11 L.	56 50 22 †		190 14¼	67	3	☽ and α Aquilæ.
☉ Oct. 3.	21 32 53			70 22 40 †	21 4½	185 36¼	69	6	☽ & Fomalhaut.
	21 55 23			54 39 28 †	21 4½	185 1	69	6	☽ and α Pegasi.
	6 42 17		12 23 U.	146 24 20 ‡	21 4½	185 6⅞	69	9	☽ & ☉: Back Obs.
☽ —— 4.	3 23 34		52 13⅓ U.	83 8 52 †	21 4½	185 23¼	65½	6	☽ & Fomalhaut.
	3 47 16		50 4⅓ U.	56 2 8 †	21 4½	184 51¼	65½	7	☽ and Pollux.
	7 8 13½		15 29⅓ U.	135 14 25 †	21 4½	184 5½ ::	68	9	☽ & ☉: Back Obs.
☿ —— 6.	8 48 23		12 44⅞ U.	113 0 14 ‡	21 4½	185 20⅓	72	9	☽ & ☉. D.
	9 1 34		10 4⅓ U.	112 53 25 ‡	21 4½	184 51⅞	72½	9	☽ & ☉. R.
♃ —— 7.	8 59 0½	45 46½	19 52⅔ U	101 58 21	22 1⅓	184 37	73⅓	5	☽ and ☉.
	9 22 18¼	50 57 1/10	15 11 U.	101 49 35	22 1⅓	184 45¼	73⅓	6	☽ and ☉.
♄ —— 9.	7 43 36½	28 36¼	47 55⅛ U.	79 53 17	22 36⅓	183 59	70	6	☽ and ☉.
☉ —— 10.	9 31 36	51 30⅓	43 18¼ U.	67 22 14	23 42¼	182 27¼	69	6	☽ and ☉.
☽ —— 11.	8 2 43	30 50⅛	52 51¼ L.	55 35 12	25 18¼	181 53¼	69½	6	☽ and ☉.
☿ —— 20.	14 49 27	44 9¼	65 6½ U.	55 58 21	37 58⅓	179 49	61½	6	☽ and ☉.
♃ —— 21.	14 48 52	44 51¼	54 29⅔ U.	69 32 4	39 10¼	178 6	63½	6	☽ and ☉.
♄ —— 23.	15 50 33½	34 54⅔	42 15¼ U.	95 50 0	40 28⅔	176 42¼	58	6	☽ and ☉.
♄ Dec. 4.	5 29 37	9 30	24 47 1/10 U.	119 25 16 ‡	50 4⅔	180 22¼	45	10	☽ and ☉: Very hazy.
♂ —— 7.	9 23 50	44 22½	24 18¼ U.	82 15 22	55 18½	181 30¼	45	6	☽ and ☉; Cloudy.
☿ —— 8.	10 14 5	48 52⅔	26 17¼ U.	69 11 12 ‡		182 11¼	45	6	☽ and ☉: Hazy.
☉ —— 19.	14 49 36	30 38⅙	32 18⅔ U.	69 12 39	64 49⅔	210 51		6	☽ and ☉.
♀ —— 24.	16 9 43	18 11 9/10	8 43 9/10 U.	126 31 18	67 3	223 0¼	33	10	☽ and ☉: Back Obs.
1774. ☿ Jan. 5.		49 11¼	23 54¼ U.	89 40 13	52 12	224 45	46	1	☽ and ☉.
		52 1¼	20 51 U.	89 29 43	52 12	224 48¼	46	2	☽ and ☉.
♃ —— 6.		38 40¼	43 4⅙ U.	77 21 22	50 45½	226 35	47¼	3	☽ & ☉ Cloudy.
	6 17 7	42 30⅔	40 32⅙ U.	77 11 55	50 45½	226 36¼	47¼	6	☽ & ☉ Cloudy.
♀ —— 7.	6 29 19	46 2¼	48 19¼ U.	63 51 7	49 19	228 47¼	47¼	6	☽ and ☉.
	6 59 11	50 27⅙	45 18 U.	63 38 27	49 17	228 37	47¼	6	☽ and ☉.
♄ —— 8.	5 27 52½	38 35⅙	56 48¼ U.	50 42 10 †		232 26¼	49	6	☽ and ☉.
☉ —— 16.	12 13 4½	37 20⅙	38 27⅛ U.	47 13 8 ‡		241 9¼	48½	6	☽ and ☉: Very hazy.
♂ —— 18.	11 7 44	41 9	22 13¼ U.	70 47 30 ‡		243 23½	41½	8	☽ and ☉.
♃ Feb. 3	4 48 36	33 33¼	21 58¼ U.	95 56 51 †		259 53¼	34½	6	☽ and ☉.

At Tongataboo, one of the Friendly Isles.

1774			Time by Watch K. H ′ ″	Altitude of the ☉ ☽ L or * ° ′	Moon's Altitude ° ′	Distance of the ☽'s L from ☉'s or * ° ′ ″	Latitude of the Ship S ° ′	Longitude East of Greenwich ° ′	Thermom	No of Obs	Objects
♃	Feb	3	5 11 18¼	25 13½	19 55⅓ U	95 46 31 †		260 15¼	34½	6	☽ and ☉
♀	——	4		25 23½	36 53¼ U	83 35 22	64 28⅓	260 28	37½	4	☽ and ☉ Cloudy
♀	——	18	10 17 0	38 53½	23 47 1/11 U	83 22 50	43 52¼	265 54½		6	☽ and ☉ Great sea
♄	——	19	11 47 14	23 54½	27 28¼ U	94 48 15 ‡		264 16¼	59	6	☽ and ☉ Cloudy
☉	——	20	10 35 31	36 47 7/8	14 27⅓ U	105 16 52	39 43⅙	264 59½	66	10	☽ and ☉
☽	——	21	11 42 20	23 46¼	18 28 U	116 34 37	37 31½	266 13¼		8	☽ and ☉
☿	——	23	4 57 23		35 20⅙ L	31 17 33 †		263 58½	66½	6	☽ and Regulus
			5 8 45¼		35 6 1/5 L	48 56 16 †		263 40⅕	66½	6	☽ and Aldebaran
☉	——	27	5 58 31		37 25 L	22 2 24 †		257 46	66¼	6	☽ and Regulus
			6 15 9		40 0¼ L	31 57 59 †		258 17	66¼	6	☽ and Spica ♍
☽	——	28		15 47	9 40¼ U	153 34 37	32 27¼	257 49¼		7	☽ and ☉ Back Obs
♂	March	1		22 39¼	15 34 1/11 U	140 26 53	31 22	157 58¼		10	☽ and ☉
☿	——	2		21 27 1/5	29 29⅘ U	127 28 42	30 39⅘	258 18		10	☽ and ☉
♃	——	3		17 25	46 7 1/5 U	114 25 45	30 6½	257 59⅙	74	10	☽ and ☉
♀	——	4		28 18¼	48 33 9/10 U	100 49 15	29 45½	259 10		10	☽ and ☉
♄	——	5	5 43 48	55 12⅓	32 50 1/5 U	86 35 42 †		259 6		9	☽ and ☉
☉	——	6		45 48¼	56 33¼ U	73 36 42	28 28¼	258 3¼		8	☽ and ☉
☽	——	7	6 13 17¼	57 28 7/8	55 57¼ U	59 53 15 †		256 28½		8	☽ and ☉
♂	——	8		16 25⅓	63 20¼ L	47 38 18	27 5¼	255 0		10	☽ and ☉
☿	——	16	11 38 51	35 4⅕	50 46 U	41 7 19	27 7	249 57½		6	☽ and ☉
♃	——	17		27 16⅕	48 53⅓ U	52 47 59	26 38½	248 51½	76	10	☽ and ☉ Cloudy
♀	——	18		39 7⅓	45 7¼ U	63 31 41	26 0½	248 52¼		8	☽ and ☉
♄	——	19	11 23 32	40 6 7/8	39 21¼ U	74 32 4	24 41½	247 57¼	76½	4	☽ and ☉ Cloudy
				35 25¼	42 1⅓ U	74 37 46	24 41	248 2¼	76½	10	☽ and ☉
☽	——	21	11 40 17	38 51¼	27 27 U	96 32 11	20 48⅓	246 16¼		6	☽ and ☉
					30 12 9/10 U	96 37 3	20 48	246 8½		6	☽ and ☉
♂	——	22	11 37 20¼	40 39 1/10	17 54 1/5 U	107 36 0	19 13	245 13	75½	10	☽ and ☉
♃	——	24		22 37¼	16 35⅓ U	130 57 55	16 55⅓		77	7	☽ and ☉ Back Obs

There seems to be something amiss in these last observations they are the first back observations that I have made which did not agree nearly with the others

☽	——	28	19 21 46¼		57 29 L	44 52 37 †		237 28½	79	6	☽ and Regulus
			19 40 38		62 2¾ L	54 41 21 † *		237 29	79	7	☽ and Antares
☿	——	30		17 42¼	17 22¾ U	144 23 26	9 18½	232 23	80	10	☽ and ☉ Back Obs

1774.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. or ✱. ° ′	Moon's Altitude. ° ′	Distance of the ☽'s L. from ☉'s or Star. ° ′ ″	Latitude of the Ship S. ° ′	Longitude East of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.	
♃ March 31.		25 2 1/3	23 53 U.	130 31 5	9 27 1/2	230 8	80 1/2	8	☽ and ☉: Back Obs.	
♀ April 1.		20 26 1/6	41 49 4/5 U.	117 2 1	9 28 1/2	228 42	79 1/2	10	☽ and ☉.	
♄ —— 2.		17 23 4/5	58 8 1/3 U.	103 33 1	9 31 1/3	227 15 1/4	81	10	☽ and ☉.	
☉ —— 3.		20 8 1/2	68 37 1/2 U.	90 6 32	9 32 1/2	225 20 7/8	81 1/2	10	☽ and ☉.	
♂ —— 5.		41 57 1/10	74 11 1/2 U.	63 20 16	9 20 1/2	222 11 1/2	82	10	☽ and ☉.	
☿ —— 6.		16 54 1/2	67 21 1/3 L.	51 1 16	9 38	221 26 1/3	77 1/2	10	☽ and ☉.	
♀ —— 15.	14 2 41	31 9 1/3	57 5 1/2 U.	44 51 38	13 53 1/3	217 2 1/2	82 1/2	5	☽ and ☉.	
☉ —— 17.		38 21 1/12	49 32 1/2 U.	66 44 16	14 28 1/2	215 14 1/4		6	☽ and ☉.	
	14 47 10 1/2	22 43 1/3	56 46 U.	67 0 20	14 29 2/3	215 8		8	☽ and ☉.	
☽ —— 18.	13 40 38	37 35 1/6	42 8 1/2 U.	77 46 1	15 5 1/6	214 18		10	☽ and ☉.	
♂ —— 19.		25 15 1/2	43 41 1/2 U.	89 8 52	15 41 1/2	213 14 1/4	81 1/2	10	☽ and ☉.	
☉ May 15.	15 3 23	20 38 1/2	53 22 2/3 L.	48 10 56	16 42 1/2	209 9 9/10	83	6	☽ & ☉	In Owharre harbour, Huaheine.
☽ —— 16.	14 9 41	31 27 1/3		58 58 27	16 42 1/2	209 20 1/3	84 1/2	6	☽ & ☉	
	17 57 50		37 55 1/3 L.	31 32 16 †	16 42 1/2		81	3	☽ and Regul.	
♂ —— 17.	15 19 56	17 1 1/3		70 20 34	16 42 1/2	209 38 1/2	83	8	☽ & ☉	
☿ —— 18.	18 24 23 1/2		52 23 1/12 L.	60 36 18 †	16 42 1/2	209 37 1/2	81	6	☽ and Spica ♍	
♃ —— 19.	15 6 38 1/2	19 43 1/2		93 14 3	16 42 1/2	209 17	81 1/2	10	☽ & ☉	
	18 39 20		59 19 1/2 L.	47 57 3 †	16 42 1/2	209 43 1/2	80 1/2	6	☽ and Spica ♍	
♀ —— 20.	15 1 35	20 43 1/2		105 9 5	16 42 1/2	208 27 1/2	82 1/2	3	☽ & ☉	
	15 14 56 1/2	17 56 1/6		105 13 12	16 42 1/2	208 38 1/2	82 1/2	5	☽ & ☉	
	17 42 53			35 19 4 †	16 42 1/2	208 47 1/2	80 1/2	5	☽ and Spica ♍	
♄ —— 21.	15 15 51	17 44 1/2		117 32 13	17 42 1/2	208 57 1/2	83	8	☽ & ☉	
	17 48 25 1/2			22 5 6 †	17 42 1/2	208 31 1/2	81 1/2	9	☽ and Spica ♍	
☉ —— 29.	4 16 13 1/2	16 17 1/8	72 0 1/2 U.	57 5 28 †	16 45 1/2	208 22 1/2	75	10	☽ and Antares.	In Ohamaneno harbour, Ulietea.
☽ —— 30.		48 6 1/6 *	26 57 1/2 U.	123 15 49	16 45 1/2	207 59 1/10	78	10	☽ & ☉: Back Obs.	
		55 48 1/2 *	34 18 1/3 U.	109 51 16	16 45 1/2	207 57 1/10	79 1/2	10	☽ & ☉	
♂ —— 31.		58 51 1/3 *	43 34 1/2 U.	96 55 29	16 45 1/2	207 50 1/2	80	10	☽ & ☉	
☿ June 1.		68 31 *	47 30 1/2 U.	84 17 45	16 45 1/2	208 10 1/2	78 1/2	6	☽ & ☉	
♃ —— 2.	7 46 25		64 54 U.	72 22 55 ‡	16 45 1/2	208 18 1/4	78 1/2	2	☽ & ☉	
	8 2 16		61 52 1/2 U.	72 18 20 ‡	16 45 1/2	208 18 1/2	78 1/2	6	☽ & ☉	
♀ —— 3.			54 35 1/2 U.	60 9 35 †	16 45 1/2	208 12 1/2	81	10	☽ & ☉	
♄ —— 4.	8 12 3	30 34 1/3	65 30 1/10 L.	48 52 28	16 44 1/2	207 22 1/10	82 1/2	10	☽ and ☉.	
☽ —— 13.	15 41 33	20 12 1/6	52 22 L.	41 15 45	18 46 1/2	197 49 1/2	77 1/2	3	☽ & ☉	Cloudy.
	15 57 57	17 0 1/10	50 51 L.	41 20 18	18 46 1/2	197 44 1/2	77 1/2	8	☽ & ☉	
♂ —— 14.	2 49 17	30 45 1/2	54 54 1/2 L.	52 12 35 ‡		197 50	76 1/2	10	☽ and ☉.	

* These are double altitudes of the ☉'s L. L. taken with Hadley's Sextant from a quickfilver horizon.

1774.	Time by Watch K H ′ ″	Altitude of the ☉'s L L or ✱ ° ′	Moon's Altitude	Distance of ☽'s L from ☉'s or Star ° ′ ″	Latitude of the Ship S	Longitude East of Greenwich ° ′	Thermom	No of Obs	Objects
♂ June 14	18 23 13	69 5¼	38 48½ L	64 7 14 †		198 3	75½	10	☽ and Spica ♍
☿ — 15	14 43 8	32 4½	51 34½ U	63 31 56 ‡		197 51	75	10	☽ and ☉
	18 38 33½	72 55½	46 36¾ L	51 43 42 †		197 50	74¾	10	☽ and Spica ♍
♃ — 16	14 40 14	33 0⅞	45 6⅓ U	75 6 44 ‡		197 44	75½	10	☽ and ☉
	18 31 52½	72 14¾	58 35⅓ L	39 13 35 †		197 51¼	74¾	8	☽ and Spica ♍
♀ — 17	15 14 50	28 7⅓	43 21¼ U	87 13 6	18 5	196 5¼	74¼	6	☽ and ☉ Doll Q.
	15 25 51	26 8⅙	45 41 U	87 17 40	18 5	195 38	74¼	6	☽ and ☉ Ramſ Q
	18 48 3	75 21⅓	66 37⅓ L	26 18 15 †		195 55½	73	7	☽ and Spica ♍
☉ — 19	16 23 46	27 15⅞	37 37½ U	112 20 27	18 27⅔	192 5	76	7	☽ and ☉ Very hazy
	18 55 53	36 41⅙	70 46½ U	45 24 41 †		192 28	75	10	☽ and Antares
☽ — 20	17 5 49	9 56⅚	34 53½ U	126 5 46	18 59	190 30¼	76¼	10	☽ and ☉ Back Obſ
♂ — 21	19 51 56	80 56⅙	60 47¼ U	31 20 0 †		190 33	79	6	☽ and Spica ♍
	20 3 47	51 46	63 29⅓ U	17 53 2 †		190 10	79	6	☽ and Antares
☿ — 22	22 31 19	48 55⅙	83 7⅒ U	47 23 28 †		189 41	76	6	☽ and Spica ♍.
	23 5 31	36 32½	88 6 U	53 40 45 †		189 11	76	6	☽ and α Aquilæ
♃ — 23	7 54 53	79 57⅓	31 46⅓ L.	61 35 21 †		188 16	76⅓	10	☽ and Spica
☉ — 26	8 28 13½	12 10⅓	19 45⅚ U	140 34 41	20 15	185 46	74½	9	☽ and ☉ Back Obſ
☽ — 27	8 54 49½	17 21⅙	25 9 U	126 58 44	20 15	184 50		10	☽ and ☉ Ditto
♂ — 28		18 18¾	34 30⅓ U	113 59 51	20 13	185 7¼	74⅓	10	☽ and ☉
		33 3⅓	15 29⅓ U	113 22 18	20 12	185 2⅓	77	10	☽ and ☉
☿ — 29	3 36 41	27 24	72 25½ L	61 30 17 †		185 42⅓	74½	6	☽ and α Aquilæ
♀ July 1	17 19 35	21 51⅓	53 53⅒ U	77 22 35	20 0⅓	182 4¼	72	8	☽ and ☉ Doll Q.
	7 29 28	23 38⅓	52 13½ U	77 20 54	20 0½	182 21	72	10	☽ and ☉ Ramſ Q
♄ — 2	4 14 4½	69 16⅓	47 11 L.	63 38 34 ‡		181 49¼	71	8	☽ and Fomalhaut
	6 54 19	16 45	59 47 U	67 0 37	19 45	181 46¼	72	6	☽ and ☉ Doll Q

1774.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. ° ′	Moon's Altitude. ° ′	Distance Moon's L. from Sun's or Star. ° ′ ″	Latitude of the Ship S. ° ′	Longitude East of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.
♄ July 2.	7 1 39	18 9¼	59 17⅕ U.	66 29 24	19 45	181 59¼	72	6	☽ and ☉: Ramf. Q.
	8 13 1	31 5¼	50 28½ U.	65 41 47	19 45½	182 18½	72½	6	☽ and ☉: Mr. Clerke's Q.
☉ — 3.	7 11 2	19 29¼	56 54⅕ L.	54 42 7	19 58 2/7	181 49 7/8	75¼	6	☽ and ☉: Dol. Q.
	7 16 50	20 35 7/8	56 49⅓ L.	54 40 48	19 58 2/7	181 47¼	75¼	6	☽ and ☉: Ramf. Q.
	8 31 36	33 40 11/12	51 46¼ U.	54 23 19	20 1	182 5¼	75¼	6	☽ and ☉: Mr. Clerke's Q.
☽ — 4.	6 38 58½	12 4⅕	48 50 L.	43 43 7	20 34½	180 42¼	75	6	☽ and ☉: Dol. Q.
	6 46 46	13 36⅚	49 40 L.	43 42 8½	20 34½	181 3¼	75	6	☽ and ☉: Ramf. Q.
☿ — 13.		28 49¼	65 9⅔ L.	46 57 35	16 20⅓	173 10½	76¼	6	☽ and ☉: Dol. Q.
		27 22⅛	65 0⅚ L.	47 0 10	16 20½	172 51¼	76¼	6	☽ and ☉: Ramf. Q.
	6 12 8	76 5¼	34 15⅕ L.	41 38 58 †		173 35	75¼	8	☽ and Spica ♍.
♃ — 14.	14 34 41	33 8 1/11	65 20⅛ U.	58 40 22	15 33	172 18	77¼	6	☽ and ☉: Dol. Q.
	14 41 13½	31 56 1/11	66 13¼ U.	58 42 21	15 33	172 12	77¼	4	☽ and ☉: Ramf. Q.
♀ — 15.	15 21 13½	25 37⅗	67 58⅛ U.	70 57 24	15 9⅓	170 55¼	79	6	☽ and ☉: Dol. Q.
	15 26 55	24 29⅕	68 58 U.	70 59 20	15 9⅓	170 51¼	79	4	☽ and ☉: Ramf. Q.
	18 45 53	64 26¼	53 21¼ L.	61 53 34 †		171 14¼	78¼	8	☽ and Antares.
☿ — 20.	18 48 51	66 20	58 14 7/8 U.	55 37 59 †		168 36	74¼	8	☽ and Spica ♍.
	19 3 46	17 28 1/10	61 45 U.	46 50 50 †		168 2⅕	74¼	8	☽ and α Aquilæ.
♃ — 21.	20 49 42	36 39⅓ T.	49 53⅓ T.	71 33 5 ‡	16 25⅓	167 40¼	74	12	☽ and Spica ♍.
♀ — 22.	18 56 16			40 48 55 ‡	16 25⅓	168 25	75	10	☽ and Antares.
♄ — 23.	18 39 1	67 46¼ T.	14 29¼ T.	55 56 46 †	16 33¼	168 17¼	77¼	7	☽ and Antares.
♂ — 26.		22 27⅛	14 12⅓ U.	131 44 56	17 53¼	169 33¼	74	10	Back Obs.
☿ — 27.		22 25⅕	23 48¼ U.	119 11 55	18 25⅓	169 31¼	72½	4	☉ and ☉.
♃ — 28.	7 37 38	16 40	38 57¼ U.	107 13 53	18 27	170 3	70¼	8	☽ and ☉: Dol. Q.

1774	Time by Watch K H ′ ″	Altitude of the ☉ s L. L. ° ′	Moon s Altitude. ° ′	Diſtance Moon s L. from Sun s or Star ° ′ ″	Latitude of the Ship S ° ′	Longitude Eaſt of Greenwich ° ′	Thermom.	No. of Obſ.	Objects
♃ July 28	7 45 28	18 19	37 21 U	107 11 43	18 27	170 13	70½	8	☽ and ☉ Ramſ Q
♄ — 30	7 40 48	17 10½	51 37 U	83 53 59	18 23	168 45½	73¼	6	☽ and ☉ Dol Q
	7 46 45	18 26⅛	50 43½ U	83 54 14	18 23	170 14¼	73¼	3	☽ and ☉ Ramſ Q
	7 59 22	21 1½	48 39½ U	83 51 14	18 23	169 43	73¼	8	☽ and ☉ Ramſ. Q
	9 56 20	42 46½	25 53⅛ U	83 14 8	18 22	168 38	76	6	☽ and ☉ Dol Q
☉ — 31	8 37 10	28 32½	47 56¼ U	72 25 51	18 24⅛	168 41⅛	75¼	8	☽ and ☉ Dol Q
	8 42 55	29 39⅞	47 5¼ U	72 26 8	18 24⅛	169 81⅞	75¼	8	☽ and ☉ Ramſ Q
	11 20 15	52 2⅛	16 49½ U	71 36 55	18 30½	169 43	74	3	☽ and ☉ Ramſ Q
	11 23 6¼	53 13¼	16 15 U	71 34 33	18 30½	169 2⅛	74	3	☽ and ☉ Dol Q

The diſagreement in the reſults of Obſervations made this day and the day before, with different Quadrants, is extraordinary indeed! nor is it the firſt time that it has happened. I was determined *now*, if poſſible, to find out the cauſe of it; the fineneſs of the weather, the ſtillneſs of the ſhip, and every other circumſtance whatſoever conſpiring to give me an advantageous opportunity. Accordingly, before the two laſt Obſervations of each day, the Quadrants were examined and adjuſted in every particular, with the utmoſt care, and I am as certain as it is poſſible to be, that there was nothing amiſs in either of them.

1774	Time by Watch K H ′ ″	Altitude of the ☉ s L. L. ° ′	Moon s Altitude. ° ′	Diſtance Moon s L. from Sun s or Star ° ′ ″	Latitude of the Ship S ° ′	Longitude Eaſt of Greenwich ° ′	Thermom.	No. of Obſ.	Objects
☽ Aug. 1	8 51 25⅜	31 3	50 14½ U	61 18 47	18 45½	168 50⅛	76	8	☽ and ☉ Dol Q
	8 58 4	32 19⅜	49 25⅞ U	61 18 17	18 45	169 24⅞	76	8	☽ and ☉ Ramſ Q
♂ — 2	8 42 38	29 52	52 30⅜ L.	50 21 34	18 38	169 10¼	73	8	☽ and ☉ Dol Q
	8 51 40	31 36¼	52 2¼ L	50 20 12	18 38	169 26¼	73	8	☽ and ☉ Ramſ Q
☿ — 3	5 35 0	45 54¼	25 52[illegible] L	24 19 17 ‡	18 43½	168 46¼	70¼	6	☽ and Aldebaran
	8 10 35	23 24[illegible]	49 34⅝ L	39 31 4	18 43½	169 8⅝	74¼	6	☽ and ☉ Dol Q
	8 18 10	24 57½	50 5¼ L	39 29 22	18 43½	169 22⅛	74¼	6	☽ and ☉ Ramſ Q
☉ — 21	21 54 29	38 55½	62 1½ T	79 40 45 †	19 41	170 5¼	69¼	6	☽ and Antares
♃ — 25	3 42 7	41 31⅜ T	67 53½ L.	41 59 11 ‡	15 2	166 44½		8	☽ and Aldebaran

1774.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. ° ′	Moon's Altitude. ° ′	Distance of ☽'s L. from Sun's or Star. ° ′ ″	Latitude of the Ship S. ° ′	Longitude East of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.
♃ Aug. 25.	7 52 49	21 39½		126 8 35	15 6½		76½	6	☽ and ☉: Back Obs.
♀ —— 26.	4 15 14	48 24 T.	64 35½ L.	28 54 45 ‡	14 47½	167 19¾	74	8	☽ and Aldebaran.
	4 28 50	26 51⅓ T.	64 14½ L.	52 7 5 ‡	14 47½	166 33¾ :	74	8	☽ and α Pegasi.
	7 25 12	15 24 11/12	37 22⅙ T.	114 28 48	14 45	167 20½	74½	10	☽ and ☉.
♄ —— 27.	4 47 29	12 9¼ T.	61 21½ L.	60 32 6 ‡	14 47	166 31½	74½	6	☽ and Pollux.
	4 57 57	19 43⅓ T.	61 28½ L.	63 42 58 ‡	14 47	167 44¾ :	74½	6	☽ and α Pegasi.
	7 43 11	19 22½	41 30⅚ U.	102 52 52	14 47½	167 12⅞	78½	6	☽ and ☉: Dol. Q.
	7 49 39	20 52	40 17½ U.	102 51 11	14 47½	167 21⅞	78½	6	☽ and ☉: Ramſ. Q.
☉ —— 28.	7 50 37	21 7⅔	47 8¾ U.	91 34 31	14 57⅓	166 47½	78	8	☽ and ☉: Dol. Q.
	7 56 58½	22 37⅔	46 2¼ U.	91 33 5	14 57⅓	166 51¾	78	8	☽ and ☉: Ramſ. Q.
☽ —— 29.	10 48 18	58 8⅔	20 39½ U.	79 37 2 †		165 44¾ :	79	6	☽ and ☉: Dol. Q.
	10 55 9	59 11	19 12⅙ U.	79 35 43 †		166 26⅓	79	6	☽ and ☉: Ramſ. Q.
♂ —— 30.	4 36 56	52 42½	36 57 T.	20 7 22 ‡	15 44	167 12½	75½	6	☽ and Aldebaran.
	11 33 47	63 53½	20 18⅓ U.	68 26 3 †		166 23	77	3	☽ and ☉: Dol. Q.
	11 45 8	64 38⅔	18 55 U.	68 22 53 †		166 50½	77	1	☽ and ☉: Ramſ. Q.
☿ —— 31.	4 46 33	53 56½	29 15⅚ L.	32 3 26 ‡		166 33		7	☽ and Aldebaran.
	9 52 17	47 30⅔	47 22⅙ U.	57 58 45	16 27⅓	165 45	76½	6	☽ and ☉: Dol. Q.
	9 57 43	48 33¼	46 35½ U.	57 58 32	16 27⅙	166 29¾	76½	6	☽ and ☉: Ramſ. Q.
	10 2 33	49 31⅔	45 55½ U.	57 57 0	16 27⅙	166 11½	76½	6	☽ and ☉: Dol. Q.
♂ Sept. 13.	15 13 13	40 40⅓	48 7¼ U.	89 15 32	19 47	164 13¾	77	8	☽ and ☉: ditto.
	15 20 24½	39 6½	49 48¼ U	89 18 50	19 47	164 0½	77	10	☽ and ☉: Ramſ. Q.
☿ —— 14.	16 26 58	24 44⅔	51 26⅓ U	103 5 58	19 18	163 46	79	6	☽ and ☉: Dol. Q.
	16 33 6	23 21½	52 52½ U	103 9 15	19 18	163 24½	79	3	☽ and ☉: Ramſ. Q.

1774.	Time by Watch K H ′ ″	Altitude of the ☉ s L L	Moon s Altitude	Distance of the ☽ s L. from ☉ s or * ° ′ ″	Latitude of the Ship S	Longitude East of Greenwich ° ′	Thermom	No of Ob	Objects
♃ Sept 15	15 20 11	39 48⅘	23 1¼ U	116 4 46	19 18	163 33¼	83	4	☽ and ☉ Dol Q
	15 25 37	38 36[illegible]	24 13⅗ U	116 6 11	19 17½	163 53½	83	7	☽ and ☉ Ramf Q
	15 30 48	37 27[illegible]	25 23⅘ U	116 9 2	19 17½	163 43¼	83	5	☽ and ☉ Dol Q
☽ — 19	0 42 39	15 47⅘	68 44 L	57 6 25 ‡		166 6¼	71½	6	☽ and α Aquila
	1 3 48	43 12[illegible] T	65 8⅙ L	45 20 47 ‡	20 25½	165 33¼	72½	6	☽ and α Arietis
♂ — 20	0 40 52	14 54⅗	68 47½ L	69 51 9 ‡		166 20½	71½	6	☽ and α Aquilæ
	1 0 6	24 24	68 3 L.	62 4 27 ‡		165 37	71½	6	☽ and Al debaran
☿ — 21	22 15 42	44 36½	38 3¼ L	81 20 18 †		166 15½	71½	6	☽ and α Aquila
	4 39 39	14 22⅕	36 12⅓ U	50 52 43 ‡		166 29½	71½	6	☽ and Fo malhaut
	4 52 29	52 38[illegible]	33 30[illegible] U	47 7 25 ‡		166 46[illegible]	71½	6	☽ and Al debaran
♃ — 22	2 10 29	39 2	58 52½ L	34 52 1 ‡		166 59½	70	4	☽ and Al deb iran verycloudy
	2 38 19½	43 22½	57 57[illegible] L	34 43 46 †		167 10½	70	6	☽ and do cloudy
	2 54 24	35 33	56 58 L	61 32. 1 ‡			70	1	☽ and Fo malhaut verycloudy
♀ — 23	2 4 36	38 54½	53 38⅙ L	22 2 3 ‡		168 14	71	6	☽ and Al debaran
	2 17 23½	42 30⅓	54 17½ L	73 31 35 ‡		168 17	71	6	☽ and Fo malhaut
		21 37⅘	14 9½ U	133 50 39	21 57[illegible]	167 8½		6	☽ and ☉ Back Obf
♄ — 24	23 21 12	40 25½	17 3[illegible] L.	69 0 43 ‡		167 53⁷⁄₁₀	72	10	☽ and α Pe gafi Hazy
☿ — 28	9 6 8	42 16	38 27[illegible] U	77 51 28 ‡		167 48½	78	6	☽ and ☉ Dol Q
	9 11 47½	43 28	37 38[illegible] U	77 49 50 ‡		167 47½	73	6	☽ and ☉ Ramf Q
♃ — 29	3 56 13½	51 34⅓	22 37⅙ L	51 21 41 †		167 17½	69½	6	☽ and Al debaran
	7 41 35	23 23⅓	50 30 U	67 8 45 †		167 13⅓	72	6	☽ and ☉ Dol Q
	7 47 38	24 46⅓	50 28[illegible] U	67 8 3 †		167 36	72	6	☽ and ☉ Ramf Q

1774.	Time by Watch K.	Altitude of the ☉'s L. L.	Moon's Altitude.	Distance of ☽'s L. from Sun's or Star.	Latitude of the Ship S.	Longitude East of Greenwich.	Thermom.	No. of Obs.	Objects.
	H ′ ″	° ′	° ′	° ′ ″	° ′	° ′			
♃ Sept. 29.	11 15 59	66 52⅕	25 29¾ U.	66 10 10 †		167 35⅕	73	5	☽ and ☉: Bird's Q.
	11 29 54	68 22¾	22 47¾ U.	66 3 25 †		167 10⅕	73	6	☽ and ☉: Mr. Smith's Q.
	11 35 1	68 49⅕	22 48¾ U.	66 2 13 †		167 17¾	73	6	☽ and ☉: Mr. Clarke's.
♄ Oct. 1.	7 12 36	18 52	44 36 L.	44 40 59	23 17¾	169 32¼	66	6	☽ and ☉: Dol. Q.
	7 21 36	20 53⅞	45 52⅓ L.	44 39 24.	23 17¾	169 58¾	66	6	☽ and ☉: Ramſ. Q.
♄ —— 8.	19 0 38	52 44	20 39⅘ L.	70 0 38 †		170 52	63¾	10	☽ and α Aquilæ.
☉ —— 9.	14 42 50	44 22⅗	76 8⅙ U.	45 28 31	28 55	168 51⅙	62½	6	☽ and ☉: Dol. Q.
	14 49 26	42 55⅓	76 34⅛ U.	45 30 38	28 55	168 48	62½	6	☽ and ☉: Ramſ. Q.
	15 16 15½	37 27	75 43⅗ U.	45 39 48	28 55	168 41½	62½	6	☽ and ☉: Bird's Q.
	11 7 15½	64 13⅗	24 20 U.	57 26 36 †		168 21½	63½	1	☽ and ☉: Dol. Q.
☽ —— 10.	16 30 18	22 36½	76 41½ L.	59 29 37	29 0	168 6¼		8	☽ and ☉: Ramſ. Q.
♂ —— 11.	14 51 34	43 48⅚	59 36⅙ U.	72 24 0	29 29	167 37½	64½	6	☽ and ☉: Dol. Q.
	14 59 2	42 14⅘	61 5⅞ U.	72 26 45	29 29	167 35½	64½	8	☽ and ☉: Ramſ. Q.
☿ —— 12.	15 16 15	38 31½	51 58½ U.	85 54 47	31 17½	167 36	65½	8	☽ and ☉: Dol. Q.
	15 25 54	36 26½	53 56¼ U.	85 58 34	31 17½	167 29	65¼	8	☽ and ☉: Ramſ. Q.
♃ —— 13.	15 46 15	31 34	45 59 U.	99 21 50	33 4⅗	166 18¼	63	6	☽ and ☉: Dol. Q.
	15 52 37	30 14⅘	47 14½ U.	99 24 46	33 4⅗	168 8½	63	6	☽ and ☉: Ramſ. Q.
	19 6 19	36 36⅗	73 34⅓ U.	54 49 33 †		168 50½	62	6	☽ and Antares.
	19 22 40	32 51⅓	72 28⅓ U.	50 36 8 †		168 42¼	62	5	☽ and α Pegasi.
♀ —— 14	16 31 26	21 17⅙	43 16⅘ U.	112 48 7	34 21	169 29	62½	6	☽ and ☉: Dol. Q.
	16 36 14	20 16⅛	44 12 U.	112 49 25	34 21	169 43¾	62½	6	☽ and ☉: Ramſ. Q.
	19 46 20	26 55⅙	69 35⅗ U.	69 0 34 †		170 17	61¼	6	☽ and Antares: cloudy.
	19 54 32	36 36⅛	69 27½ U.	37 59 37 †		168 57⅞	61¼	4	☽ and α Pegasi: cloudy.

1774	Time by Watch K H ′ ″	Altitude of the ☉'s L L	Moon's Altitude	Distance of the Moon's L. from Sun's or Star	Latitude of the Ship S	Longitude Last of Greenwich	Thermom	No. of Obs	Objects
♀ Nov 11	14 18 8½	47 9[illegible]	31 35½ U	94 27 10	42 22⅙	174 51⅛	62	6	☽ and ☉ Dol Q
	14 23 31	46 12½	32 30⅘ U	94 29 10	42 22⅙	175 3¼	62	7	☽ and ☉ Ramſ Q
♄ —— 12	15 45 3	31 14[illegible]	34 48[illegible] U	107 48 49	43 27	175 42¼	64	6	☽ and ☉ Dol Q
	15 50 35	30 13[illegible]	35 41⅔ U	107 50 51	43 27	175 50¼	64	6	☽ and ☉ Ramſ Q
♂ Dec 6	6 8 16	58 33⅙	33 44 U	45 9 48 †		251 57[illegible]	46	6	☽ and ☉ Dol Q
	6 14 9	58 43[illegible]	34 33[illegible] U	45 12 31 †		251 32	46	6	☽ and ☉ Ramſ Q
☿ —— 7	10 4 26	40 13[illegible]	53 17⅙ L	46 53 12	53 20⅙	252 28¼	48	6	☽ and ☉ Dol Q
	10 7 59	39 11½	53 10 L	46 55 0	53 20¼	252 24[illegible]	48	2	☽ and ☉ Ramſ Q
	6 25 25	58 59[illegible]	27 23⅓ U	58 52 48 †		254 32	47	6	☽ and ☉ Dol Q
☽ —— 12	8 43 40	43 46	12 38⅛ U	110 33 15	53 22¼	267 45¼	47	8	☽ and ☉ ditto
	8 52 48½	42 27½	13 51¼ U	110 37 7	53 22¼	268 3[illegible]	47	8	☽ and ☉ Ramſ Q
		29 23	24 25¼ U	111 15 15	53 22[illegible]	268 14[illegible]	46[illegible]	4	☽ and ☉ Dol Q
	15 41 46	19 20[illegible] T	24 57[illegible] L	52 43 57 †	53 22	268 19	43	10	☽ and Aldebaran.
♂ —— 13	15 46 22	19 53 T	23 58¼ L	39 54 31 †	53 24	271 11[illegible]	43	6	☽ and ditto
1775.									
♀ Jan 6	6 53 56	38 29½	40 25[illegible] U	52 30 15 ‡		305 34¼	43	7	☽ and ☉ Ramſ Q Hazy
	7 2 46½	37 25¼	40 22[illegible] U	52 33 10 ‡		305 58¼	43	8	☽ and ☉ Dol Q Hazy
♄ —— 7	5 49 38½	46 15	33 3¼ U	65 10 50 ‡		306 55[illegible]	43	7	☽ and ☉ Dol Q
	5 57 22	45 23⅓	33 35½ U	65 15 15 ‡		306 23	43	6	☽ and ☉ Ramſ Q
☉ —— 8	5 38 52	47 49[illegible]	25 14½ U.	77 47 48 ‡		308 2[illegible]	49	6	☽ and ☉ Dol Q
	5 44 25	47 8[illegible]	25 46[illegible] U	77 50 34 ‡		307 49¼	49	6	☽ and ☉ Ramſ Q
	13 4 23	18 38¼	11 58[illegible] U	57 48 4 †		307 58[illegible]	45	7	☽ and Aldebaran

1775.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. ° ′	Moon's Altitude. ° ′	Distance of the ☽'s L. from ☉'s or Star. ° ′ ″	Latitude of the Ship S. ° ′	Longitude East of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.
☿ Jan. 25.		16 52½	42 55 1/12 L.	82 54 27	57 7	329 13	43	6	☽ and ☉: Dol. Q. Hazy.
	23 17 53	40 47 1/12	32 54½ U.	81 40 24 †		329 15⅞	42½	4	☽ and ☉: ditto, and very hazy.
	23 32 2	42 17 9/10	31 25½ U.	81 34 8 †		329 12	42½	4	☽ and ☉: Ramf. Q. very hazy.
	Repeated a day, and rejected 360° of Longitude.								
♀ Feb. 17.	9 44 14½	19 31⅔ T.	17 30¾ L.	28 27 10 †	54 23¼	8 23⅛	33¼	5	☽ and Regulus: Dol. Q.
	9 54 51	20 8¼ T.	18 45½ L.	28 29 52 †	54 23¼	9 17⅞	33¼	5	☽ and Regulus: Ramf. Q.
	10 5 18	20 57⅔ T.	19 56⅘ L.	25 55 43 †	54 23¼	9 40⅛	33¼	5	☽ and Spica ♍: Ramf. Q.
	10 13 43	22 0 T.	20 51 1/12 L.	25 61 56 †	54 23¼	9 40⅛	33¼	6	☽ and Spica ♍: Dol. Q.
♂ —— 21.	17 49 43	17 54½	40 28 U.	102 40 9 ‡		21 51½	35	1	☽ and ☉: Dol. Q. verycloudy.
	18 16 19	21 43	37 44 U.	102 28 39	55 4	21 22⅛	35	3	☽ and ☉: Dol. Q. verycloudy.
	18 21 48½	22 24 1/10	37 7 U.	102 26 50	55 4	21 27½	35	2	☽ and ☉: Ramf. Q. verycloudy.
♃ Feb. 23.	19 22 52	13 23 1/12	45 36½ U.	76 15 51	53 5½	25 50	38	8	☽ and ☉: cloudy.
♀ —— 24.	19 39 27½	37 36 1/12	51 42⅞ U.	62 47 25 †		28 21	38½	6	☽ and ☉: Dol Q. hazy.
	19 49 39	39 52⅔	50 37⅓ U.	62 41 18 †		27 32½	38½	5	☽ and ☉: Ramf. Q. hazy.
♄ —— 25.	19 28 31½	37 17⅛	57 43⅛ U.	49 8 20	49 32½	29 25⅛	42	6	☽ and ☉: Dol. Q. cloudy.
	19 45 24	39 24⅛	56 39½ U.	49 1 57	49 31½	29 38½	42	6	☽ and ☉: Ramf. Q. cloudy.
♄. March 4.	1 45 5⅓	30 16⅓		34 59 58	43 49½		57	3	☽ and ☉.

1775	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L.	Moon's Altitude ° ′	Distance of the ☽'s L. from ☉'s or ✱ ′ ″	Latitude of the Ship S	Longitude East of Greenwich ° ′	Thermom.	No. of Obs.	Objects
☽ March 6	0 58 42	38 51⅕	33 24 U	59 38 45 †		27 10½	54	6	☽ and ☉'s Dol Q
	1 7 35	37 29	33 53 U	59 42 15 †		26 54¾	54	2	☽ and ☉ Ramſ Q
♂ — 7	1 28 27½	34 28⅙	29 33½ U	71 37 8	41 48½	26 14¼	60¼	2	☽ and ☉
♃ — 9	6 0 31		26 13⅓ L	61 53 31 †		25 32½	55	4	☽ and Regulus
♀ — 10	1 55 25	31 5¼	11 52⅓ U	105 19 35	40 50	23 40⅓	52½	5	☽ and ☉ Dol Q
	1 58 43	30 30 1/11	12 20½ U	105 21 15	40 50		52½	2	☽ and ☉ Ramſ Q
	2 26 6	25 42¼	16 3⅓ U	105 30 51	40 49½	23 47	52½	10	☽ and ☉ ditto
	6 15 24		28 53⅓ L	30 15 50	40 45½		51	1	☽ and Aldebaran Cloudy
♃ — 16	7 54 14	27 31½	36 11⅘ L	30 48 45 †		22 18¼	67	6	☽ and Spica ♍
	8 9 18	41 14¼	38 26¼ L	23 36 52 †		22 12½	67	6	☽ and Regulus
♀ — 17	8 50 54	39 1¼	40 31⅓ L	17 41 35 †		20 1¼	67	6	☽ and Spica ♍
	8 57 43½	42 2¼	41 33½ L	37 10 30 †		21 16	67	2	☽ and Regulus
☿ May 3		20 4¼	42 50⅔ U	44 11 4	26 51	6 19¼	68¼	8	☽ and ☉
	6 22 15	49 37⅕	19 55⅓ L	58 34 25 †		7 31	67½	8	☽ and Regulus
♃ — 4	0 30 20	45 30¼	26 39¼ U	54 40 13 ‡		5 52¼	67	6	☽ and ☉
	2 16 56	32 33½	40 33 U	55 8 40 ‡		5 59¼	67½	10	☽ and ☉
	6 10 0½	49 26¼	30 44¼ L	46 28 21 †		6 50	67	7	☽ and Regulus
☉ — 7		25 56¼	33 26¼ U	88 20 58	23 16	3 19½	66¼	8	☽ and ☉
	4 32 25½	10 47	45 13 U	88 40 7 ‡		3 10⅓	66½	8	☽ and ☉
	6 17 44	33 28½	51 31½ L	64 19 30 †		3 11¼	66	8	☽ and Spica ♍
☽ — 8	3 30 40½	24 57⅓	28 56⅓ U	99 26 10 ‡		1 50¼	67½	8	☽ and ☉
	6 34 35½	36 47⅞	55 50½ U	52 14 57 †		1 54	66½	9	☽ and Spica ♍
♂ — 9	3 50 44½	22 18⅓	24 47¼ U	110 43 45	20 34¼	West 0 18 East.	67½	8	☽ and ☉
	6 35 28½	36 39⅓	55 50½ U.	40 7 2 †		0 37 West.	68½	10	☽ and Spica ♍
♃ — 11	5 15 39	7 33¼	25 14¼ U	134 15 48 †		2 54	69½	10	☽ and ☉ Back Obſ

1775.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. ° ′	Moon's Altitude. ° ′	Distance Moon's L. from Sun's or Star. ° ′ ″	Latitude of the Ship S. ° ′	Longitude West of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.
♃ May 11.	7 33 26	57 11$\frac{1}{6}$	55 32$\frac{5}{6}$ U.	39 43 26 †		2 5$\frac{1}{6}$	69	6	☽ and Regulus.
	7 41 21	51 50$\frac{2}{3}$	57 12$\frac{1}{2}$ U.	15 20 4 †		1 44$\frac{1}{2}$	69	6	☽ and Spica ♍.
	7 50 5$\frac{1}{2}$	15 11$\frac{5}{6}$	58 47$\frac{5}{6}$ U.	60 35 46 †		2 11$\frac{2}{3}$	69	6	☽ and Antares.
♀ —— 12.	7 36 50	57 12$\frac{1}{2}$	47 54$\frac{1}{2}$ U.	52 55 24 †		2 14	69	6	☽ and Regulus.
	7 47 57	15 1$\frac{1}{4}$	50 25$\frac{1}{3}$ U.	47 43 4 †		2 27$\frac{5}{6}$	69	6	☽ and Antares.
☉ —— 14.	10 20 59	83 22$\frac{2}{3}$	63 5$\frac{3}{4}$ L.	28 28 30 †		4 20	70$\frac{1}{2}$	6	☽ and Spica ♍.
☉ —— 21.	21 54 41	36 45$\frac{1}{2}$	48 45$\frac{2}{3}$ U.	85 36 58 †		7 10$\frac{1}{2}$	70	6	☽ and ☉: verycloudy.
☽ —— 22.	21 45 30	34 19$\frac{5}{8}$	63 17$\frac{1}{8}$ U.	72 36 45	14 43	8 23$\frac{3}{8}$	73$\frac{1}{2}$	8	☽ and ☉: cloudy.
♂ —— 23.	20 7 40$\frac{1}{2}$	13 4$\frac{7}{10}$	72 48$\frac{4}{5}$ L.	60 12 5	13 45	9 43$\frac{1}{2}$	72$\frac{1}{2}$	10	☽ and ☉.
☿ —— 24	20 31 31	17 42$\frac{7}{10}$	65 16$\frac{4}{5}$ L.	47 26 8	12 6$\frac{1}{2}$	11 21	72$\frac{1}{2}$	10	☽ and ☉.
♃ June 1.	3 40 56$\frac{1}{2}$	43 45$\frac{1}{2}$	63 12$\frac{3}{5}$ L.	36 43 50 ‡		15 44$\frac{3}{5}$	79	10	☽ and ☉.
	8 20 26	57 5$\frac{1}{3}$	20 40$\frac{1}{3}$ L.	37 36 32 †		15 2	78	3	☽ and Regulus.
♀ —— 2.	3 44 47	44 36$\frac{7}{10}$	60 51$\frac{1}{10}$ U.	47 47 43 ‡		17 36$\frac{1}{2}$	78$\frac{1}{2}$	10	☽ and ☉.
	8 15 52	58 56$\frac{1}{6}$	34 16$\frac{1}{6}$ L.	25 39 32 †		17 11	77	6	☽ and Regulus.
♄ —— 3.	3 41 54	46 51	52 47$\frac{1}{3}$ U.	58 48 17 ‡		19 52$\frac{1}{3}$	78$\frac{2}{3}$	3	☽ and ☉.
	3 50 22$\frac{1}{2}$	45 16$\frac{1}{10}$	54 27$\frac{1}{10}$ U.	58 49 0 ‡		19 44$\frac{7}{10}$	78$\frac{4}{5}$	5	☽ and ☉.
	8 28 42$\frac{1}{2}$	67 11$\frac{2}{5}$	44 43$\frac{3}{5}$ L.	67 29 32 ‡		19 30$\frac{1}{2}$	77	5	☽ and Spica ♍.
☉ —— 4.	4 33 34	38 56$\frac{9}{16}$	53 55$\frac{1}{2}$ U.	69 58 39 ‡		21 29	79	8	☽ and ☉.
	8 33 35	67 0$\frac{1}{6}$	56 11$\frac{5}{6}$ L.	55 34 22 †		21 27$\frac{1}{2}$	78	6	☽ and Spica ♍.
☽ —— 5.	4 17 24	44 3$\frac{1}{4}$	40 3$\frac{1}{4}$ U.	80 58 26 ‡		23 40	80	8	☽ and ☉.
	8 36 17$\frac{1}{2}$	66 22$\frac{1}{2}$	68 8 L.	43 34 46 †		23 18	79	8	☽ and Spica ♍.
♂ —— 6.	4 45 27	40 40$\frac{1}{2}$	34 54 U.	92 19 4 ‡			81	4	☽ and ☉.
	4 51 53$\frac{1}{2}$	39 21$\frac{1}{5}$	36 27$\frac{1}{2}$ U.	92 21 40 ‡		26 22$\frac{1}{2}$	81	10	☽ and ☉.
	8 54 33	69 22$\frac{1}{3}$	76 43$\frac{1}{2}$ L.	31 23 20 †		25 49$\frac{1}{2}$	79$\frac{1}{2}$	6	☽ and Spica ♍.
☿ —— 7.		40 31$\frac{5}{6}$	25 8$\frac{1}{6}$ U.	103 47 6	4 51$\frac{1}{2}$	28 8$\frac{3}{4}$	81	6	☽ and ☉.
	5 0 46	39 11$\frac{1}{2}$	26 44$\frac{1}{2}$ U.	103 49 56 ‡		28 34	81	8	☽ and ☉.
	9 14 3	73 9$\frac{9}{10}$	83 53$\frac{3}{5}$ U.	19 11 27 †		27 3$\frac{1}{2}$	81	5	☽ and Spica ♍.
♃ —— 8.	5 19 13	37 32$\frac{1}{2}$	18 48$\frac{3}{5}$ U.	115 38 27	3 45$\frac{1}{3}$	29 31	81$\frac{1}{2}$	10	☽ and ☉.
	9 20 50	27 35$\frac{1}{2}$	77 26$\frac{1}{12}$ U.	52 4 4 †		29 56$\frac{1}{2}$	80	6	☽ and Antares.

1775	Time by Watch K. H ′ ″	Altitude of the ☉'s L L ° ′	Moon's Altitude ° ′	Distance of the ☽'s L. from ☉'s or ✱ ° ′ ″	Latitude of the Ship S ° ′	Longitude West of Greenwich ° ′	Thermom.	No. of Obſ.	Objects.
♀ June 9	9 30 53	51 37½	65 59⅔ U	61 51 7 †		31 33¼	81¼	7	☽ and Regulus
	9 57 33	34 32⅔	72 26⅛ U	38 56 22 †		32 26¼	81¼	8	☽ and Antares
♄ —— 10.	9 57 42	34 29½	59 28½ U	25 56 12 †		32 7⅓	81	6	☽ and Antares
	10 7 57	80 57	61 53¼ U	22 51 40 †		32 18¼	81	2	☽ and Spica ♍ cloudy
☉ —— 11	12 13 10	59 14 T	72 5⅓ U	37 24 28 †	North 0 40½	31 54¼	80	8	☽ and Spica ♍
	12 26 54	25 32½ T	73 27¼ U	62 27 10 †	0 40½	32 36	80	6	☽ and α Aquilæ.
☽ —— 12.	11 55 45	19 22¼	56 16⅓ U	50 24 18 †		31 48⅞	81	6	☽ and α Aquilæ
	12 11 32	58 5⅓	59 13¼ U	51 49 0 †		31 19¼	81	4	☽ and Spica ♍
☉ —— 18	21 9 30	13 41⅞	63 24⅘ U	102 11 53 ‡		30 13⅞	79¼	10	☽ and ☉
☽ —— 19	21 32 47	18 51¼	71 25¼ U	102 57 49	7 54	31 6⅓	80¼	7	☽ and ☉
♂ —— 20	21 25 46	16 8⅓	82 21$\frac{1}{10}$ L	76 11 40	9 10⅜	32 31⅛	79¼	10	☽ and ☉
♄ July 1	3 43 49	81 16⅔	55 56¼ U	40 35 38 ‡		41 3⅛	76¼	6	☽ and ☉ Dol Q
	6 6 19	50 8$\frac{1}{10}$	76 54¼ U	41 12 54	27 21½	41 1	76	10	☽ and ☉ Ramſ Q
☉ —— 2	5 38 29	56 33$\frac{1}{10}$	66 14$\frac{9}{10}$ U	52 6 37	28 53	41 2⅛	75¼	10	☽ and ☉
☽ —— 3	5 47 31	54 11¼	57 28¼ U	63 12 15 ‡		40 11¼	75	6	☽ and ☉
♂ —— 4	5 39 57	55 26⅓	45 23½ U	74 22 39 ‡		39 42⅔	75	6	☽ and ☉ Dol Q
	6 1 24	50 47½	49 6⅓ U	74 30 8 ‡		40 8¼	75	8	☽ and ☉ A Bird's Q.
	11 21 52	40 20	37 0¼ L	22 8 7 †		39 37	74	6	☽ and Spica ♍
☿ —— 5	7 1 56	37 43⅛	47 51¼ U	86 15 13 ‡		39 36	77	6	☽ and ☉
	11 16 23	29 12½	42 2¼ L	55 41 17 †		39 28⅛	75	2	☽ and Antares
♃ —— 6	5 49 18	52 53½	24 55½ U	97 32 29	33 12¼	39 12¼	76¼	6	☽ and ☉
	11 17 46	16 21⅛	44 26½ U	57 30 49 †		38 58	75	6	☽ and Regulus
	11 28 30¼	29 42¼	43 14½ U	43 6 18 †		39 20	75	6	☽ and Antares
♀ —— 7	6 24 39	45 20½	20 3$\frac{1}{10}$ U	109 50 36 ‡		39 9	78¼	10	☽ and ☉
	11 6 48	28 20	45 49½ U	39 31 52 †		39 19⅞	76¼	6	☽ and Antares
♄ —— 8	7 9 19	36 13¼	15 59¼ U	122 39 11	34 14¼	39 30¼	79¼	10	☽ and ☉ Back Obſ

1775.	Time by Watch K. H ′ ″	Altitude of the ☉'s L. L. ° ′	Moon's Altitude. ° ′	Distance of ☽'s L. from Sun's or Star. ° ′ ″	Latitude of the Ship N. ° ′	Longitude West of Greenwich. ° ′	Thermom.	No. of Obs.	Objects.
☿ July 19.		21 36	59 9$\frac{2}{3}$ U.	81 1 21	39 9	26 16	72	10	☽ and ☉: very cloudy.
♃ —— 20.		24 16$\frac{1}{4}$	63 01$\frac{1}{3}$ U.	68 54 56	39 24$\frac{1}{4}$	24 54	70	8	☽ and ☉.
	23 49 20	54 26$\frac{1}{3}$	48 19$\frac{1}{3}$ U.	68 4 14 †		25 9$\frac{1}{4}$	71	8	☽ and ☉.
♄ —— 22.	3 12 26$\frac{1}{4}$	65 28$\frac{1}{2}$	21 4 U.	55 7 49 ‡		22 25	72$\frac{1}{2}$	10	☽ and ☉.
	21 25 11	29 27$\frac{2}{3}$	61 20$\frac{1}{4}$ L.	45 35 10	40 32$\frac{2}{3}$	20 40	68	10	☽ and ☉.
	23 18 1	50 37$\frac{2}{3}$	65 53$\frac{7}{12}$ U.	45 2 17	40 39	20 22$\frac{1}{4}$	67$\frac{1}{2}$	10	☽ and ☉.
	1 13 24	67 19$\frac{1}{12}$	50 53$\frac{1}{4}$ U.	44 26 53 †		20 39$\frac{1}{3}$	69	8	☽ and ☉.
☉ —— 23.	2 59 37	64 50$\frac{1}{4}$	31 46$\frac{2}{3}$ U.	43 49 25 †		20 32$\frac{1}{3}$		8	☽ and ☉.

*** The characters annexed to the preceding Observations are explained on p. 178; but it is necessary to add, that those numbers, which the letter T is found against, express the true altitude of the center of the object, found by computation; it having been inconvenient, on some account or other, to observe the altitude of that object at the time. It may be farther remarked, that the dip of the horizon, on board the Resolution, was 4′ 20″, unless expresly said to be otherwise; and that when no Quadrant is mentioned, the observed distance may, in general, be supposed to have been taken with Dollond's Quadrant.

A

J O U R N A L

OF THE

SITUATIONS of his Majeſty's Sloop RESOLUTION each Day at Noon, during her late Voyage on Diſcoveries towards the South;

As ſhewn by the Log, by two Time-keepers, one made by Mr. KENDALL, on Mr. HARRISON's Principles, and the other by Mr. ARNOLD (No. 3.), and alſo by Obſervation.

TOGETHER WITH

The LONGITUDES and LATITUDES of all Lands ſeen in that Voyage, as well as the more remarkable Capes, Head-Lands, and Bays in them.

1772.	Course.	Distance.	Latitude North		Longitude West					Swell Sets.
			By Account.	By Observation.	By Account.	By Watch K.	By A. No. 3.	By Observation.	Corrected.	
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′	° ′	
☽ July 13.				50 5	4 34⅙				4 34⅙	
♂ —— 14.	S. 6¼ W.	49	49 16	49 16 †	4 51				4 46	S. E.
☿ —— 15.	S. 40¼ W.	32	48 52	48 50	5 22	5 18⅙	4 50⅙		5 22⅕	S. E.
♃ —— 16.	S. 40¼ W.	107	47 29	47 28¾	7 06⅕	6 55⅓	6 20⅓		6 59⅕	S. E.
♀ —— 17.	S. 20¾ W.	64	46 28⅙	46 24⅕	7 40	7 29⅙	6 53⅞		7 33	E.
♄ —— 18.	N. 45 W.	22½	46 44½	46 43	8 04	7 36⅙	6 49⅙		7 41	E.
☉ —— 19.	S. 22 W.	85	45 25	45 20	8 50	8 23⅓	7 29⅙		8 27⅕	
	Cape Ortagal.			43 46⅕					8 32	
☽ —— 20.	S. 1⅕ E.	68	44 12	43 54	8 48				8 28	
♂ —— 21.	S. 59⅕ W.	45	43 31	43 30	9 39⅕				8 59⅕	
☿ —— 22.	South.	1	43 30	43 35	9 44⅕	9 11⅓	7 53⅓	9 44⅕	9 15	
♃ —— 23.	S. 36 W.	88	42 24	42 18	10 50	10 27⅓	9 02⅙	10 23⅕	10 27⅕	
♀ —— 24.	S. 25⅕ W.	153	40 0	40 02	12 16	11 49⅙	10 15⅙	11 44	11 48⅕	
♄ —— 25.	S. 25⅕ W.	158	37 40	37 40	13 42⅕	13 10⅞	11 24⅞	13 10⅕	13 10¼	
☉ —— 26.	W. 62 S.	145	35 32	35 31½	15 08	14 28½	12 34½	14 36	14 28	
☽ —— 27.	S. 19⅕ W.	111	33 46½	33 43	15 54	15 09⅓	13 08⅙	15 22	15 09¼	
♂ —— 28.	S. 48 W.	82	32 48	32 48½	17 02	16 36⅕	14 26⅙	16 30	16 36	
	Porto Sancto.			32 58½					16 25½	
	Fonchial, in Madeira.			32 33½					17 11½	
☉ Aug. 2.				31 58					17 02	
☽ —— 3.	S. by W.	135½	29 45	29 42½	18 22½	17 29⅙	14 25⅙		17 34½	
	N. E. end of Palma.			28 48					17 56½	
	Middle of Palma.			28 36					18 0⅕	
♂ —— 4.	S. 35 W.	80		28 37.	19 10⅕	18 24⅙	14 41⅙		19 11⅕	
☿ —— 5.				27 55½	19 38½	18 50⅙		18 52	18 53⅕	
	Hummock, towards the S. end of Ferro.			27 42					18 09½	
♃ —— 6.	S. 11¼ W.	111	26 06½	26 07½	20 02½			19 17	18 34½	
♀ —— 7.	S. 8¼ W.	128	24 0½	24 06¼	20 23½	19 31⅓	15 02⅙	19 45	19 24	
♄ —— 8.	S. 8 W.	120	22 07	22 07	20 41½	19 59⅙	15 16⅙	20 03⅕	19 52	
☉ —— 9.	S. 19⅖ W.	129	20 05½	20 05½	21 28	20 54⅙	15 53⅙	20 50	20 27	
☽ —— 10.	S. 22¼ W.	151½	17 46	17 48	22 29½	22 06⅙	16 48⅙	21 51½	21 59	
♂ —— 11.	S. 22 W.	107	16 07½	16 10¼	23 11	22 48⅞	17 12⅙	22 33	22 41⅕	
	Bonavista, North Point.			16 13⅖						
	Bonavista, East Point.			16 03⅖					22 44⅕	
	Bonavista, South Point.			15 58						
	Mayo, North End.			15 15⅕					23 03	
	Mayo, Great Hummock.			15 12⅖					23 04	
	Mayo, South end.			15 11					23 10	
☿ —— 12.	S. 30 W.	80½	15 0	14 59½	23 53	23 26⅙	17 31⅙	23 15	23 18	
	Port Praya, in St. Jago.			14 53⅞	24 4	23 36⅞	17 42⅙	23 40	23 29⅕	
♄ —— 15.	S. 34 E.	76⅖	13 49½	13 49½	23 9			22 31	22 34½	
☉ —— 16	S. 11 E.	90	12 21½	12 19⅙	22 51⅓	23 0⅙	15 51⅓	22 13⅕	22 52⅕	
☽ —— 17.	S. 59½ E.	46	11 56	11 54	22 11½			21 35⅕	22 12⅕	
♂ —— 18.	S. 56 E.	53	11 26	11 22⅖	21 26⅙	21 21⅙	13 34⅙	20 50⅕	21 13⅕	

	1772	Course	Distance	Latitude North		Longitude West					Swell Sets
		°	Miles	By Account ° ′	By Observation ′	By Account ′	By Watch K °	By A No 3 ° ′	By Observation ′	Corrected °	
☿	Aug 19	S 24 E	48	10 39	10 39	21 07	20 54⅛	13 07⅞	19 12¼	20 47	
♃	—— 20	S 9 E	86¼	9 13⅓	9 13⅓	20 53			18 58¼	20 08	
♀	—— 21	S 30 E	40	8 38⅓	8 37	20 32			18 38¼	19 21¼	
♄	—— 22	S 54 E	75	7 53	7 50	19 30½	18 01⅛	9 09⅛	17 36¼	17 53½	
☉	—— 23	S 43½ E	84½	6 48¼	6 48⅓	18 29¼	16 49⅛	7 44⅞	16 31¼	16 41½	
☽	—— 24	S 67 E	74	6 20	6 23¼	17 21	15 27⅛	6 06½	14 46	15 19½	
♂	—— 25	S 56 E	53	5 53¼	5 54	16 37			14 02	14 12¼	
☿	—— 26	S E	64	6 08½	5 06½	15 51½			13 16¼	13 03¼	
♃	—— 27	S 48 E	81	4 12	4 13	14 51	11 47⅞	1 38½	12 16	11 40½	
								East			
♀	—— 28	S 68 E	75	3 45	3 48⅙	13 42	10 17⅜	0 07⅞	11 07	10 01½	
♄	—— 29	S 58 E	63	3 08½	3 09¼	12 48	8 59⅜	1 35½	10 13	8 43½	
☉	—— 30	S 63½ E	71	2 37	2 36	11 44	7 12⅛	3 39⅞	9 09	6 56½	
☽	—— 31	S 85 E	50	2 31½	2 31¼	10 54	5 31⅛	5 42	8 19	5 15½	
♂	Sept. 1	S 57½ W	63	2 05	1 58½	11 38	5 40⅞	6 02⅞	9 03	5 25½	
☿	—— 2	S 44 W	49	1 23	1 21½	12 12½	6 24⅓	5 23½	5 35	6 09	
♃	—— 3	S 71 W	82	0 56	0 59	13 30			6 52½	7 37½	
♀	—— 4	S 80 W	66	0 45	0 50¼	14 35	9 09⅛	3 10½	7 57½	8 53½	
		The current set N by E			32 feet in a minute						
♄	—— 5	S 78 W	10¼	0 48¼	0 53⅓	14 45	9 12⅛	3 20⅞	9 54	8 56½	
☉	—— 6	S 64 E	55	0 29⅛	0 33¼	13 55¼	7 52⅛	4 54⅞	9 0	7 36½	
☽	—— 7	S 83 E	47	0 28	0 23	13 09			8 22	7 17½	
				South	South	Crossed the Equinoctial				8 12½	
♂	—— 8	S 60 W	71		0 18	14 10¼	9 02⅓	4 52⅓	7 58¼	8 47	
☿	—— 9	S 48 W	50	0 51¼	0 59	14 48	9 45⅓	4 25½	9 26	9 30	
♃	—— 10	S 54 W	68	1 54	2 0	15 28	10 52⅓	2 52⅞	10 06	10 37	
♀	—— 11	S 33 W	70	2 59	3 05¼	16 06¼	12 17⅓	2 08½	10 44¼	12 02	
♄	—— 12	S 22 W	67	4 08⅓	4 12	16 32	13 16½	1 35¼	11 10	13 01½	
☉	—— 13	S 36 W	73	5 10	5 12	17 14	14 16½	0 49¼	14 21¼	14 21½	
☽	—— 14	S 29½ W	92		6 32	17 59¼	15 08½	0 22⅓	15 13¼	15 13¼	
♂	—— 15	S 18½ W	109½		8 16¼	18 34¼				16 22¼	
☿	—— 16	S 23 W	79	9 29¼	9 29¼	19 04¼		West		17 25¼	
♃	—— 17				11 04	19 32¼	18 21⅓	1 17⅞	18 26	18 26¼	
♀	—— 18	S 20 W	92½		12 31	20 04¼	18 37⅓	1 45⅞	17 56¼	18 43¼	
♄	—— 19	S 24 W	102	14 04	14 07	20 46¼	19 35⅓	2 21½	18 54¼	19 40	
☉	—— 20	S 16 W	91	15 34	15 38	21 12¼	20 12½	2 37⅓	20 06¼	20 17	
☽	—— 21	S 21 W	95½	17 07	17 14	21 51				20 57½	
♂	—— 22	S 21½ W	92½	18 39	18 46¼	22 29¼	21 32⅓	3 33⅞	21 19¼	21 37½	
☿	—— 23	S 14 W	81	20 05¼	20 12¼	22 52	22 0½	3 53½	21 47¼	22 05½	
♃	—— 24	S 17 W	80½	21 29	21 35¼	23 19¼	22 33⅞	4 0½	22 21	22 39¼	
♀	—— 25	S 31 W	87	22 50	22 54¼	24 10¼				23 38¼	
♄	—— 26	S 0¼ W	74½	24 09	24 17	24 10¼	23 43½	4 30⅔	23 30¼	23 48¼	
☉	—— 27	S 2 W	26	24 43	24 44¼	24 12¼	23 46½	4 21½	23 33¼	23 51½	
☽	—— 28	S 23 E	45	25 26¼	25 29½	23 52¼				23 36¼	
♂	—— 29	S 59 E	80	26 11	26 17¼	22 25¼		East		22 15¼	
☿	—— 30	S 70½ E	114	26 55¼	26 58½	20 18¼	20 08½	10 07¼	19 55¼	20 13	

1772.	Course.	Distance.	Latitude South		Longitude West					Swell Sets.
			By Account.	By Observation.	By Account.	By Watch K.	By A. No. 3.	By Observation.	Corrected.	
	°	Miles.	° ′	° ′	° ′	° ′	° E. ′	° ′	° ′	
♃ Oct. 1.	S. 75 E.	107	27 26	27 28	18 14½	18 09	2 23⅞	17 56¼	18 14	
♀ — 2.	S. 75½ E.	46¼	27 39½	27 38½	17 29	17 07⅞	3 42⅔	17 01¼	17 13¾	
♄ — 3.	S. 67½ E.	87	28 11¾	28 09½	16 04	15 27½	5 31⅓	15 10¼	15 32½	N. E.
☉ — 4.	S. 67½ E.	135¼	29 01	29 23	13 37	13 08⅞	8 11⅓	13 33	13 14¼	N. E.
☽ — 5.	S. 88½ E.	80½	29 04	29 0¼	12 0	11 28⅓	10 08⅞	11 50	11 33¾	
♂ — 6.	S. 12 W.	44½	29 44	29 48½	12 12¾	11 45⅛	10 05⅓	11 40	11 50½	
☿ — 7.	S. 2½ W.	81	31 09½	31 21	12 16½	11 56⅓	10 17⅞	11 51¼	12 01¾	
♃ — 8.	S. 23½ E.	76	32 30½	32 45½	11 33	11 29⅜	10 56⅞	11 24¼	11 34½	
♀ — 9.	S. 39 E.	83	33 50⅓	34 0⅛	10 21¼	10 16⅞	12 22⅓	10 11¼	10 22½	
♄ — 10.	S. 70 E.	84	34 29	34 28½	8 42¼	8 23⅛	14 36⅞	8 18	8 27	
☉ — 11.	E. by S. ¼ S.	66¼	34 44¾	34 44½	7 24¼	7 05⅞	16 07⅓	7 0¼	7 18½	
☽ — 12.	E. by S.	34¼	34 51¼	34 51⅛	6 37¼	6 25⅛	16 49⅞	5 55¼	6 25	
♂ — 13.	S. 62½ E.	42	35 11¼	35 14¼	5 47¼				5 18	
☿ — 14.	S. 77 E.	89	35 34¼	35 32¼	4 12	3 25⅛	20 0½	2 55¼	3 19	
♃ — 15.	S. 85 E.	85	35 40	35 32¼	2 28¼	1 22⅓	22 46⅓	0 53	1 14	
						East.		East.	East.	
♀ — 16.	N. 81 E.	135	35 17	35 17	0 15½	1 37⅔	26 01⅞	2 06¼	1 46	
	The water discoloured, as if we were in soundings.									
♄ — 17.	N. 82 E.	110	35 01⅔	35 0	2 28½	3 59⅓	28 33⅞	4 41¼	4 09	
☉ — 18.	N. 80 E.	128	34 37½	34 37½	5 04¾	6 31⅞	31 28⅞	7 14¼	6 43	
☽ — 19.	N. 71 E.	60	34 21¾	34 19	6 11¾	7 26⅖	32 35⅞	8 08¾	7 37½	
♂ — 20.	S. 29 E.	29	34 44½	34 48⅔	6 29	7 36⅗	32 57⅛	8 02¼	7 47½	
☿ — 21.	S. 5 E.	55	35 42¼	35 39	6 34¼	7 21⅓	33 07⅞	7 59¼	7 32½	
♃ — 22.	S. S. E.	76	36 50	36 52¼	7 11¾	8 09⅔	33 58⅛	8 47⅓	8 20½	
♀ — 23.	S. 65 E.	37½	37 08¼	37 12¾	7 54¼	9 0⅔	35 02⅓	9 38¼	9 11½	
♄ — 24.	E.N.E. ¼ E.	91	36 42	36 38	9 42	11 0⅕	37 26⅞	11 38¼	11 11¾	
☉ — 25.	N. 63 E.	136	35 37	35 37	12 12¼				13 23¾	
☽ — 26.	N. 49 E.	91	34 37½	34 29½	13 37¼	14 18⅞	41 16⅓	14 57	14 30	W.
	Sounded: No ground with 210 fathoms.									
♂ — 27.	N. 45 E.	79	33 44	33 43	14 44½	15 11⅛	42 25⅓	15 49⅛	15 22¼	W.
	Sounded: No ground with 200 fathoms.									
☿ — 28.	N. 89 E.	53	33 43	33 41½	15 46⅓	15 56⅞	43 27⅓	16 35	16 08	
	Sounded: No ground with 220 fathoms.									
♃ — 29	S. 81 E	74	33 53½	33 53½	17 14				17 30	
	Cape of Good Hope.		33 57	33 56	18 10½	18 12¼	47 18⅞	18 50	18 23¼	
☽ Nov. 23.	S. 46 W.	58	34 37	34 36½	17 32¼	17 46¾	17 29¼		17 43½	N.
♂ — 24.	S. 10 E.	50	35 25	35 23½	17 42¼	17 58⅛	17 35		17 55½	N.
☿ — 25.	S. 20 W.	98	36 55¼	37 14	16 52¼	16 38⅛	16 02¼		16 38½	
♃ — 26.	S. 11 W.	99	38 51	39 03½	16 25¼	15 34⅛	15 02⅓		15 34½	
♀ — 27.	S. 27 E.	67	40 03	40 05⅛	17 06¼	16 31¼	15 53¼		16 31½	
♄ — 28.	S. 4 E.	55	40 58	40 58⅓	17 11¼				16 31	
☉ — 29.	S. 3 E.	69	42 07½	42 08	17 16¼	16 30½	15 42¼		16 30⅛	
☽ — 30.	S. 60 E.	29	42 22½	42 22	17 60¼				17 13½	
♂ Dec. 1.	S. 8 E.	53	43 14½	43 14½	18 0¼				17 32¼	

1773	Course	Distance	Latitude South By Account.	Latitude South Observation	Longitude East By Account	Longitude East By Watch K	Longitude East By A No 3	Longitude East By Observation	Longitude East Corrected	Swell sets
	°	Miles	° ′	° ′	° ′	° ′	° ′	° ′	° ′	
♀ Feb 12	S 51 L	148	52 56¼	52 48	73 49	70 34¾	69 11¼	70 48	71 01	
♄ —— 13	S 54 E	111	53 53¼	53 54¾	76 18¼	72 53$\frac{7}{8}$	71 33¼	73 21¼	73 20½	
☉ —— 14	S 48 E	125½	55 18$\frac{1}{3}$	55 18$\frac{1}{3}$	78 0	73 35½	72 19¼	74 3	74 02½	S b E
☽ —— 15	S 56 E	163	56 49$\frac{1}{3}$	56 50	82 1¼	79 12$\frac{7}{8}$	77 54¾	79 40	79 39$\frac{7}{8}$	
♂ —— 16	S 70 E	75	57 15$\frac{1}{3}$	57 15¼	84 11¼	81 20¼	80 4	81 47¼	81 47¼	
☿ —— 17	S 44 E	56	57 55¼	57 54¾	85 24¼				82 38	
♃ —— 18	S 86 E	57	57 59¼	57 57	87 11¼	83 34	82 21	83 49	84 2¼	
♀ —— 19	S 76 E	135	58 29¼	58 30	91 20¼				88 07	S
♄ —— 20	S 81¼ E.	122	58 47¼	58 46¾	95 11¼	91 25	90 15¼	91 38¼	91 54½	
☉ —— 21	S. 67 E	29	58 58	59 0	96 3¼	92 20	91 12	92 33$\frac{7}{8}$	92 50½	
☽ —— 22	S 46 L	47¼	59 31	59 35	97 10¼	93 34	92 27	93 47	94 04	
♂ —— 23	S 20 E	90	60 55¼	61 1	98 13¼				94 56	
☿ —— 24	S 46 E.	28	61 20¼	61 20¾	98 55¾				95 29	
♃ —— 25	N 16 E	33	60 49	60 48¾	99 14	95 6¼	94 6¼	95 18½	95 37¼	
♀ —— 26	S 76¼ E	81¼	61 7¾	61 8	101 58	97 32	96 33	97 43¼	98 04	
♄ —— 27	N 65 E	77	60 24	60 24	104 27				100 37	
☉ —— 28		136	59 58	59 57¼	108 54¼	104 34½	103 39	104 45¼	105 08	S W
☽ March 1	S 67½ L.	94	60 34	60 34	111 48¾				108 14	S W
♂ —— 2	S 40 W.	13	60 44	60 44	111 32¼				108 09	
☿ —— 3	N 64 E	65½	60 15	60 16	113 32	109 45	108 51	109 56¼	110 20¼	
♃ —— 4	S 82 E	105	60 32	60 35	117 2¼				113 55¼	S
♀ —— 5	S 88 E	108	60 34½	60 38½	120 43	116 53	115 55	117 03¼	117 29$\frac{7}{8}$	S
♄ —— 6	N 34 E	42	60 3½	60 9½	121 30¾	118 0½	117 13¼	118 10¼	118 37$\frac{7}{8}$	S E.
☉ —— 7	N 86 L	56	59 59½	60 12	123 21½				120 25$\frac{7}{8}$	
☽ —— 8	N 41 F	45	59 25	59 43½	124 19	120 40¼	119 58	120 49¼	121 19¼	
♂ —— 9	N 48 E	77	58 53½	58 55¼	126 4½				123 01½	
☿ —— 10	N 71 E	154	58 5¼	58 6	130 43¾				127 37¼	S
♃ —— 11	S 85¼ E	91	58 16¼	58 9	133 35¼	129 45½	129 8¼	129 54¼	130 26½	S
♀ —— 12	S 48 E.	69	58 55½	58 55¼	135 14	131 4½	130 25	131 12¼	131 46½	S
♄ —— 13	N 76 E	55	58 42¼	58 42	136 57¼	132 41¼	132 4	132 49	133 24	S
☉ —— 14	N 76 E	86	58 21¼	58 21¼	139 37	135 17¼	134 42¼	136 15	136 0¾	
☽ —— 15	S 69 E	119	59 4¼	59 4¼	143 11	138 59¼	138 25¾	139 58¼	139 43	
♂ —— 16	N 83 E	110	58 50½	58 51½	146 42¾	142 9	141 36¼	143 8¼	142 54½	E
Stood to the Northward				58 57					146 25¼	
☿ —— 17	N 81 E	148	58 28½	58 28½	151 32	146 35		147 33¼	147 20$\frac{7}{8}$	
♃ —— 18	N 30 E	136	56 30½	56 31	153 39	149 9	148 38¼	150 7¼	149 55½	
♀ —— 19	N 36½ E	144	54 35	54 46	156 10¼				152 11	E
♄ —— 20	N 49½ E	164	52 48	53 22½	158 51¼	153 48	153 18¾	154 45¼	154 36	E
☉ —— 21	N 31 E.	150	51 14¼	51 14	160 59½				156 47	E
☽ —— 22	N 49¼ E.	123	49 55	49 55¼	163 26½	158 27	158 2¼	159 24½	159 17	
♂ —— 23	N. 40 E.	169¼	47 45¼	47 45¼	166 6¼	160 45½	160 23¾	161 42¼	161 30$\frac{7}{8}$	
☿ —— 24	N 51 E	115	46 32	46 32½	168 19¼	162 50$\frac{7}{8}$	162 29¼	163 47$\frac{7}{8}$	163 42$\frac{7}{8}$	
♃ —— 25	N 79 E	83	46 17	46 15	170 17¼				165 38	
♀ —— 26	N 32 E.	95	45 45¼	45 45¼	170 44¼				166 4¼	
Observatory at Dusky Bay				45 47$\frac{1}{16}$					166 18⅛	

1773.		Course.	Distance.	Latitude South		Longitude East					Swell sets.
				By Account.	By Observation.	By Account.	By Watch K.	By A. No. 3.	By Observation.	Corrected.	
		°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′	° ′	
♂	May 11.				45 37					166 41	
☿	—— 12.	N. 29 E.	61	44 38¼	44 36¼	166 34¾				167 17	
♃	—— 13.	N. 34 E.	119	42 59¼	42 55¼	168 06½				168 57	
♀	—— 14.	N. 51 E.	97¼	41 58¼	41 52¼	169 49½	170 20¼	169 54½		170 53¾	
♄	—— 15.	N. 82 E.	46¼	41 13	41 13	170 22½	170 59¼	170 29¾		171 33¼	
☉	—— 16.	N. 52 E.	23	40 59	40 58	170 51				172 17	
		Cape Farewell.			40 35½					172 47½	
☽	—— 17.	N. 60 E.	43	40 37½	40 33¼	171 48¼	172 54½	172 29	173 33¼	173 29⅞	
♂	—— 18.	S. 66 E.	54	40 56	41 3					174 27½	
		Q. Charlotte's Sound.			41 6					174 18 7/10	
♂	June 8.				41 56⅛		174 57½			175 36½	
☿	—— 9.	S. 52 E.	91	42 52⅙	42 57½	176 37				177 32	
♃	—— 10.	S. 52 E.	100½	43 54	43 54¼	178 25¾	179 02¾		179 54	179 41½	N.W.
♀	—— 11.	S. 52 E.	78½	44 43	44 46	179 52				181 0	N.W.
♄	—— 12.	S. 59½ E.	109	45 38	45 44	182 04				183 24	N.W.
☉	—— 13.	S. 31 E.	43	46 15	46 24	182 36½				184 7½	
☽	—— 14	S. 71½ E.	25¼	46 23	46 35	183 11½				184 53½	N.W.
♂	—— 15.	S. 76 E.	32	46 31	46 46½	183 57¼	185 23½		186 14¾	185 58½	
☿	—— 16.	S. 32 E.	33	46 59¼	46 58	184 23				186 9	S. W.
♃	—— 17.	N. 40 E.	50	46 21	46 18¼	185 10	186 8		186 58½	186 41	S. W.
♀	—— 18.	N. 75 E.	91	45 54½	45 54	187 16½	188 8		188 59½	188 41	
♄	—— 19.	N. 59 E.	85	45 10	45 6	188 59				190 33½	
☉	—— 20	N. 76 E.	114	44 42	44 34	191 35				193 3½	
☽	—— 21.	N. 87 E.	67	44 38½	44 26	193 10	194 17½		195 9	194 48½	N.W.
♂	—— 22.	S. 79 E.	66	44 39	44 35½	194 43	195 54½		196 46	196 25½	
☿	—— 23.	S. 89 E.	50	44 37	44 37½	195 55	197 23		198 14½	197 53	
♃	—— 24.	N. 8 W.	58	43 38	43 37	195 51				197 37	
♀	—— 25.	N. 19 W.	23	43 16	43 14	195 41				197 15	
♄	—— 26.	N. 69 E.	9	43 13	43 9½	195 53	196 47		196 24	197 15	
☉	—— 27.	N. 11 E.	36	42 34	42 34	196 2				197 27	
☽	—— 28.	S. 86 E.	36	42 36	42 35	196 51				198 9½	
♂	—— 29.	S. 54 E.	13	42 49	42 46¼	197 19				198 40½	
☿	—— 30.	S. 67 E.	59	43 9½	43 6	198 38				200 2½	
♃	July 1.	S. 82 E.	71	43 15	43 7½	200 21	201 26¼		202 11¾	201 49½	
♀	—— 2.	N. 87 E.	64	43 4	43 2½	201 54	202 52½		203 2½	203 15½	
♄	—— 3.	S. 72 E.	56	43 20	43 18	203 12	204 19¾		204 29¾	204 42¾	
☉	—— 4.	S. 53 E.	51	43 57	43 58	203 56	205 10		205 20	205 32	S. W.
☽	—— 5	N. 62 E.	105	43 9	43 11	206 11	207 12		207 22	207 34	W.
♂	—— 6.	N. 34 E.	76	42 6	42 7½	206 29	208 0		208 10	208 32	W.
☿	—— 7.	N. 33 E.	52	41 23½	41 22	207 8	208 48½		209 10¼	209 10½	
♃	—— 8.	S. 64 E.	83	41 58½	41 59	208 59	210 48¾		211 8½	211 10¾	N.
♀	—— 9.	S. 65 E.	91	42 37	42 39½	210 48	212 55½		213 15	213 17½	
♄	—— 10.	S. 61 E.	132	43 43½	43 36½	213 32	215 27¼		215 47	215 49¼	
☉	—— 11.	S. 87 E.	99½	43 48½	43 34⅛	215 57	217 43¼		217 49¼	218 5¼	
☽	—— 12.	N. 79 E.	79	43 18½	43 16	217 51	219 42½		219 28½	219 42½	
♂	—— 13.	N. 79 E.	46	43 7	43 1¼	218 57	220 51¼		221 8	221 13¼	

1773		Course.	Distance	Latitude South		Longitude East				Swell from
		°	Miles	By Account ° ′	By Observation ° ′	By Account ° ′	By Watch K ° ′	By Observation ° ′	Corrected. ° ′	
☿	July 14	S 79 E	39	43 9	43 7	220 0			222 14	
♃	—— 15	N 4 W	30	42 40	42 36	219 57			222 08	
♀	—— 16	N 51 E.	109	41 31	41 24	222 4	223 50½	224 6¼	224 12½	
♄	—— 17	N 51 E	136	39 58	39 43	224 48	226 10¼	226 26½	226 32¼	
☉	—— 18	N 6 E	108	37 56	37 56	225 2	226 22½	226 38¼	226 44½	
☽	—— 19	N 8 E	83	36 45¼	36 34¼	225 17	226 43	226 59¼	227 6	
♂	—— 20	N 6 W	74	35 23	35 20	225 7	226 33	226 49¼	226 55	
☿	—— 21	N ¼ W	156	32 44¼	32 44	224 48	225 49	226 5¼	226 12	
♃	—— 22	N 15 W	100¼	31 7¼	31 5½	224 25	225 13½	225 29¾	225 36½	
♀	—— 23	N 7 W	98	29 28	29 22¼	224 10	224 52½	225 8¼	225 15½	
♄	—— 24	S 67 W	73	29 50½	29 47	222 52			224 3	
☉	—— 25	S 88 W.	26	29 51¼	29 44	222 22	223 16¼	223 29¾	223 39¼	
☽	—— 26	N 37 E	66	28 51½	28 52¼	223 7	224 15½	224 37¼	224 38½	
♂	—— 27	N 16 E.	57	27 58	27 53¼	223 26	224 31½	225 14	224 54½	
☿	—— 28.	N 73 W	27	27 44	27 43	223 13	223 58½	224 52	224 21½	
♃	—— 29	N 69 W	43	27 28	27 30	222 28	223 11½	224 12	223 34½	
♀	—— 30.	N 61 E	55	27 4	27 4¼	223 22	224 13¾	225 14	224 37	
♄	—— 31	N 18 E	46	26 20¼	26 19	223 36	224 49½	225 23	225 13	
☉	Aug 1	N 25 E	85	25 2½	25 2	224 16¼			225 54	South
☽	—— 2.	N 3 E.	108	23 14½	23 14	224 22	225 36¾	226 2¼	226 0½	
♂	—— 3	N 2 E.	60	22 12½	22 8	224 24½	225 51½	227 7½	226 15½	
☿	—— 4.	N 13 E	38	21 30	21 18	224 37	226 2½	227 12¼	226 26¼	
♃	—— 5.	N 56 E.	70	20 38¼	20 39¼	225 37½	227 30¼	228 40¼	227 54½	
♀	—— 6	N 83 E.	60	19 48	19 47	226 19	227 59¾	229 9¾	228 24	
♄	—— 7.	N 59 W	97	18 57	18 51	224 59			226 54¼	
☉	—— 8.	N 70 W	148	18 1	18 4	222 31	223 52	225 2	224 16	
☽	—— 9	N 79 W	120	17 41½	17 41½	220 27½	221 40	221 57¾	222 4	
♂	—— 10.	N 84 W	111	17 30	17 22¼	218 31½	219 35	220 2½	219 59	
		Resolution Island.			17 23¼				218 15	
☿	—— 11.	N 86 W	112	17 15	17 17	216 34½	217 34	218 1½	217 58	
		Furneaux's Island			17 11				216 53	
♃	—— 12.	N 88 W	91	17 18½	17 11	214 59½	215 58	215 58	216 22	
		Adventure Island			17 6				215 42¼	
♀	—— 13	S 87 W	75	17 15	17 16¼	213 41½	214 41	214 41	216 4	
		Chain Island			17 25				214 29	
♄	—— 14.	S 89 W	99	17 18	17 15	211 57½	212 53	212 55	213 18	
		Miatea, or Osnaburg			17 52				211 54¼	
☉	—— 15.	S 75 W	96	17 40	17 46	210 22½	211 14	211 38½	211 39	
☽	—— 16.	N 87 W	40	17 44	17 44	209 41½			210 58	
		Oaitipeha Bay			17 46				210 46½	
♂	—— 24				17 42				210 47	
☿	—— 25				17 28				210 28¼	
		Point Venus.			17 29¼				210 25½	
♃	Sept 2				16 51					
		Owharre Bay, S. part.			16 44¼				208 52½	
♂	—— 7				16 50					
		Ohamaneno Bay			16 45				208 20½	

1773.	Course.	Distance.	Latitude South By Account.	Latitude South By Observation.	Longitude East By Account.	Longitude East By Watch K.	Longitude East By Observation.	Longitude East Corrected.	Swell fets.
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′	
♀ Sept. 17.				16 51⅓				208 0	
♄ —— 18.	S. 71 W.	75	17 16	17 17	206 59	206 43		206 45	
☉ —— 19.	S. 70 W.	66	17 39½	17 40	205 54	205 38½		205 42½	
☽ —— 20.	S. 69 W.	65	18 3¼	18 3¾	204 49			204 39	
♂ —— 21.	S. 67 W.	51	18 23¼	18 22¾	204 0	203 44¼	204 10½	203 52¼	
☿ —— 22.	S. 71 W.	51	18 39¼	18 41	203 9	202 46¾	203 12½	202 56¾	
♃ —— 23.	S. 70 W.	80½	19 08¼	19 8½	201 49	201 12½	201 38½	201 24½	
	Hervey's Islands.			19 17				201 12	
♀ —— 24.	S. 72 W.	71	19 29½	19 28⅔	200 41½	199 33	199 54½	199 47	
♄ —— 25.	S. 76 W.	101	19 53⅓	19 51¼	198 56	197 36½	198 18¾	197 52½	
☉ —— 26.	S. 73 W.	109	20 23½	20 25⅓	197 5	195 33½	196 16	195 51½	
☽ —— 27.	S. 79 W.	120	20 46	20 40	195 1	193 45	194 27½	194 5	
♂ —— 28.	S. 81 W.	136	21 1	21 3½	192 34	191 5	191 47½	191 27	
☿ —— 29.	S. 76 W.	111	21 30½	21 30¾	190 39	189 42½	190 30	190 6¼	
♃ —— 30.	N. 82 W.	153	21 8½	21 11¾	188 1	187 25¼	188 12¾	187 51¼	
♀ Oct. 1.	S. 83 W.	87	21 21½	21 21⅔	186 29	185 47	186 34½	186 15	
	English Road, Eaoowe.			21 20½				185 26	
	Van Diemen's Road, Tongatabu.			21 4¾				185 3½	
♀ —— 8.	S. 18 W.	61	22 3½	22 4½	184 44	184 8½	184 41¾	184 40.	
♄ —— 9.	S. 50 E.	40	22 29½	22 28	185 17	184 51⅓	185 24⅔	185 22⅔	
☉ —— 10.	S. 74 W.	61	22 44½	22 45½	184 13	183 29¼	183 59	184 0	
	Pylestaart Island.			22 23½				184 12	
☽ —— 11.	S. 42 W.	88	23 50½	23 49½	183 8	182 10½	182 21	182 40½	
♂ —— 12.	S. 19 W.	110	25 34	25 36½	182 28	181 16	181 44½	181 45½	
☿ —— 13.	S. 13 W.	100	27 13½	27 13½	182 3	180 25¼	180 54¼	180 54¾	
♃ —— 14.	S. 12 W.	97	28 47½	28 46	181 40	179 45¼	180 13¾	180 13¾	
♀ —— 15.	S. 9 W.	93	30 19	30 16	181 24	179 30½	179 59	179 58½	
♄ —— 16.	S. 8 W.	89	31 41⅓	31 41¾	181 10	179 27¼	179 55¼	179 55¾	
☉ —— 17.	S. 1½ E.	63	32 42½	32 41¾	181 11½	179 26½	179 55	179 54	
☽ —— 18.	S. 11 E.	83	34 3½	33 46¾	181 27	179 48½	180 17	180 15½	
♂ —— 19.	S. 7 E.	130	35 57	35 58	181 46	179 47½	180 16	180 14	
☿ —— 20.	S. 14 W.	115	37 49½	37 47¾	181 11½	179 33½	179 46½	179 59½	
♃ —— 21.	S. 28 W.	88	38 59½	39 6	180 12½	178 29⅔	178 30½	178 55¾	
	The Shambles off Table-Head,			39 20				178 20¾	
	Portland.			39 25				178 12	
♀ —— 22.	S. 50 W.	109	40 15½	40 14	178 23½	176 45½	176 46½	177 11	
	Cape Turnagain.			40 28				176 56	
♄ —— 23.	S. 64 W.	33	40 28½	40 28¼	177 44	176 36	176 35¾	177 2	
☉ —— 24.	S. 26 W.	78	41 38½	41 39	176 58½	176 12½	176 12¼	176 38½	
☽ —— 25.	S. 38 W.	55	42 21½	42 23	176 12½			175 54	
♂ —— 26	S. 65 W.	15	42 29	42 27	175 59½	175 16½	175 16½	175 42¾	
☿ —— 27.	N. 10 W.	52	41 36	41 35¾	175 47½	175 25½	175 25	175 51½	
♃ —— 28.	S. 13 W.	43	42 17	42 16½	175 34½	175 16¼	175 16	176 42¾	
♀ —— 29.	N. 24 E.	40	41 89	41 45½	175 52¾	175 46½	175 46½	176 12¾	

1773	Course	Distance.	Latitude South By Account	Latitude South By Observation	Longitude East By Account	Longitude East By Watch K	Longitude East By Observation	Longitude East Corrected	Swell from.
		Miles.	° ′	° ′	° ′	° ′	° ′	° ′	
♄ Oct. 30	S. 64 W.	73	42 17	42 13½	174 24¼			174 55	
☉ —— 31	S 68 E.	19	42 23½	42 19	174 46½			175 26¼	
☽ Nov 1	N 54 W	48	41 51	41 51	173 55½			174 45	
♂ —— 2								174 54	
Queen Charlotte's Sound				41 5				174 18	
♄ —— 27	S 14 E.	107	43 26½	43 26½	175 24	175 55½		175 56¾	N E
☉ —— 28	S 20 E	56	44 19	44 19	175 50½	176 32½		176 34½	N N E
☽ —— 29	S 14 E.	15	44 35½	44 36½	175 56½	176 57½		176 0	N E
♂ —— 30	S 45 E	107	45 51½	45 49	177 43½	178 23½		178 28¾	N E
☿ Dec. 1	S 38 E.	93	47 2½	47 4½	179 6½	179 27		179 33½	N E
♃ —— 2	S 35 E	93	48 19	48 21⅞	180 28			180 56	N E
♀ —— 3	S 27 E	39	48 56	48 56½	180 54			181 23	N E
♄ —— 4	S 17 W	68	50 1	50 1	180 23½			180 53½	N E
☉ —— 5	S 70 W	44	50 16	50 14½	179 19½	179 38	180 4	179 50	N E.
☽ —— 6	S 6 W	31	50 45	50 54	179 14½	179 33½	179 58½	179 46¼	N E.
About eight in the evening, passed directly over the antipodes to London									
♂ —— 7	S 9 E	131	53 6½	53 7	179 48½	180 18	180 43½	180 33	N E
☿ —— 8	S 6 E.	160	55 47	55 39	180 20½	181 26	181 54	181 42½	N E
♃ —— 9	S 6 E	126	57 45	58 2	180 44	182 4½	182 21¾	182 22½	N E
♀ —— 10	S 43 E	98	59 9½	59 4	182 44			184 56½	N E
♄ —— 11	S 27 E.	116	60 54	60 44¾	184 15	186 53½	187 10½	187 14½	N E
☉ —— 12	S 30 E	143	62 48½	62 46	186 44	189 28	189 45	189 51	N E
☽ —— 13	S. 52 E	92	63 42¾	63 39	189 29			193 19	N E
♂ —— 14	S 52 E	129	65 2½	64 55	192 14	196 37½	196 54½	197 3	N E
☿ —— 15	S 60 E	100	65 46	65 42	195 46			200 38	N E.
♃ —— 16	N 43 E.	28	64 24	64 16	198 7			203 4	
♀ —— 17	S 66 E	51	64 36	64 35	199 57	204 30	204 47	204 58	
♄ —— 18	N 83 E	87	64 25½	64 27	203 12			208 27	
☉ —— 19	S 75 E	73	64 44½	64 47¾	205 59	211 0	210 27	211 27½	
☽ —— 20	S 23 E	75	65 56	65 58	207 10	211 47½	211 14½	212 11¾	
♂ —— 21	S. 34 E.	60	66 47	66 48	208 34			213 54½	
☿ —— 22	S 69 E	104	67 25	67 26¾	212 50			218 26½	
♃ —— 23	N 83 E.	93	67 15	67 12½	216 52	222 19	221 46	222 45	
♀ —— 24	S 58½ W	19	67 18	67 17	216 27¾	222 41½	222 15	223 7	
♄ —— 25	N 49 E	83	66 24	66 21	219 9½			225 9½	
☉ —— 26	N 56 E	14	66 13	66 14	219 39	225 54½	225 28¼	226 19½	
☽ —— 27	N 80 E	20	65 53	65 53½	220 9	226 38½	226 12¾	227 3	
♂ —— 28	N. 9 W	92	64 23	64 18	219 47			226 19	
☿ —— 29	N ½ E	111	62 9	62 23	220 13	225 55	225 29	226 19	N
♃ —— 30	N 30 W	84½	61 19	61 5	218 49			225 22	
♀ —— 31	N. 11 W.	83	59 59	59 40	218 11	224 47	224 21⅔	225 11	N E.
1774									
♄ Jan 1	N 24 W	30	59 13	59 11	217 46	223 47½	223 21½	224 10½	
☉ —— 2	N 22 W	71	58 5	57 58	216 51	222 54	222 28	223 16½	
☽ —— 3	N 50½ W	125	56 38	56 46½	214 11	220 25	219 59½	220 48	
♂ —— 4	N 16½ E	106	55 7	54 55½	215 8			221 22½	E.

1774.		Course.	Distance. Miles.	Latitude South By Account. ° ′	Latitude South By Observation. ° ′	Longitude East By Account. ° ′	Longitude East By Watch K. ° ′	Longitude East By Observation. ° ′	Longitude East Corrected. ° ′	Swell from.
☿	Jan. 5.	N. 37 E.	94	53 40¼	53 43½	216 41	222 11½	221 45½	222 33	E.
♃	6.	N. 29 E.	89	52 25	51 59¼	218 17	224 24	225 0½	224 45½	E.
♀	7.	N. 42 E.	113	50 35	50 36¼	220 21	226 35¼	226 55¼	226 56¼	E.
♄	8.	N. 42 E.	111	49 14	49 7½	222 25	228 52½	228 56¼	229 13½	E.
☉	9.	N. 74 E.	161	48 23¼	48 17	226 42	232 44¼	233 13¼	233 5	E.
☽	10.	N. 84¼ E.	97	48 7¼	48 7¼	229 6	235 2	235 30½	235 22	
♂	11.	N. 42 E.	111	47 52¼	47 51¼	231 47	237 32½	238 0½	237 52½	
☿	12.	S. 45 E.	145	49 34	49 34	234 22	240 3¼	240 32¼	240 23½	
♃	13.	S. 21 E.	159	52 3	52 1¼	235 52			241 52½	
♀	14.	S. 24 W.	125	53 56	53 55¼	234 28	240 8½	240 37	240 27½	
♄	15.	S. 28 W.	154	56 11	56 5	232 22			238 1	S. E.
☉	16.	S. 74 E.	89		56 18⅓	234 50	240 27	240 52¼	240 46½	
☽	17	S. 16 E.	147	58 39	58 34	235 57	241 37½	242 3½	241 57½	
♂	18.	S. 15 E.	147	60 55¼	60 54¼	237 17	242 59½	243 0½	243 19¼	
☿	19	S. 7 E.	57	61 52	61 50	237 32			243 28¼	E. S. E.
♃	20.	S. 21 E.	49	62 37	62 34¼	238 9	243 38¼	243 43¼	243 59¼	S. E.
♀	21.	N. 6 E.	7	62 27¼	62 26¼	238 11	243 25½	243 30½	243 46¼	
♄	22.	N. 77 E.	116	61 59	61 56	242 18			247 34¼	
☉	23.	S. 81 E.	80	62 12	62 22	245 0	249 35¼	249 40½	249 57¼	N. N. E.
☽	24.	S. 43½ E.	104	63 37½	63 37	247 37½			252 12	
♂	25	S. b W. ½ W.	110¼	65 25	65 24⅗	246 35	250 25	250 30	250 47½	
☿	26.	S. 2 W.	63	66 28¼	66 35½	246 29	250 17¼	250 22¼	250 40¼	S. W.
♃	27.	S. 12 E.	79	67 53	67 51¼	247 11			251 30	S. W.
♀	28.	S. 2 E.	100	69 31	69 30¼	247 20½			251 47½	
♄	29.	S. 34 E.	34	69 59¼	69 58¾	248 14	252 24	252 29	252 48	
		Tacked from the ice.			71 7¼				253 1¼	
☉	30.	S. 17 E.	53	70 45	70 46	248 54			253 29	
☽	31.	N. 5 E.	95	69 11	69 13	249 18			253 53	
♂	Feb. 1.	N. 21 E.	74	68 3	68 1	250 34	254 43½	254 48½	255 10½	S. W.
☿	2.	N. 33 E.	62	67 9	67 7½	252 5			256 37	
♃	3	N. 50 E.	65	66 25¼	66 25	254 9	258 26	258 31	258 36	
♀	4	N. 32 E.	44	65 47¼	65 41¼	255 15	259 47½	260 11¼	260 18½	
♄	5.	N. 5½ W.	99	64 4¼	64 5	254 53	259 36	260 0¼	260 9	S.
☉	6.	N. 42 E.	17	63 52	63 53½	255 14			261 11¼	
☽	7.	N. 2 E.	157¼	61 17	61 5¼	255 27	261 30	261 54¼	262 6	
♂	8.	North.	177	58 8¼	58 4	255 27			262 29	
☿	9.	N. ¼ W.	165	55 41¼	55 42	255 1			262 26	
♃	10.	N. ¼ E.	127	53 34	53 36⅔	255 5	262 14	262 38¼	262 54¼	
♀	11.	N. 31 E.	134	51 42¼	51 37½	256 59	263 52	264 16¼	264 34	
♄	12	N. ¼ E.	81	50 16¼	50 15	257 6	263 54¼	264 19	264 38¼	
☉	13.	West.	32	50 16¼	50 12¼	256 34	263 15½	263 39¼	264 0¼	
☽	14.	N. 13 E.	43	49 32	49 29	256 49	263 21¼	263 46	264 8¼	N. E.
♂	15.	N. 33 W.	36	49 2	48 55	256 21	262 36	263 0¼	263 24	
☿	16.	N. 44¼ E.	100	47 42	47 55	258 7			265 3	
♃	17.	N. 28 E.	94	46 22	46 17½	259 16	265 18½	265 42½	266 9½	
♀	18	N. 3 W.	123	44 15	44 10¼	259 7	265 13¼	266 1¼	266 5¼	

1774	Course	Distance.	Latitude South		Longitude East				Swell sets
			By Account	By Observation	By Account	By Watch h.	By Observation	Corrected	
		Miles	°	°	°			° ′	
♄ Feb 19	N 22 W	137	42 3	42 5½	257 53	264 3½	264 7½	264 57½	
☉ —— 20	N 16½ E	124	40 7½	39 59½	258 43	264 53⅞	264 54½	265 49¾	
☽ —— 21	N 19 E	130	37 56	37 53½	259 38	265 26	266 17½	266 23	
♂ —— 22	N 22 W.	109	36 13	36 10½	258 48	264 38¾	265 29½	365 36¼	
☿ —— 23	S 71 W	107	36 45	36 41½	256 44	262 26½	263 18	263 25	
♃ —— 24	S 62 W	98	37 27	37 27½	254 54	260 42½	262 30½	261 42	
♀ —— 25	S. 78 W	124	37 52½	37 53½	252 24	258 25½	260 14	259 20¾	
♄ —— 26	N 36 W	92	36 40	36 39½	251 24	257 29½	259 17	258 31	
☉ —— 27	N 11 W	101	35 0½	34 54	250 59	256 52½	256 41	257 55¼	
☽ —— 28	N 5 W	101	33 14	33 9	250 48	256 37	257 44	257 40	
♂ March 1	N 8 W	55	32 15	32 17	250 39	256 23½	257 52½	257 26¼	
☿ —— 2	N 11 E	56	31 22½	31 13½	250 55	256 41½	258 2½	257 45¼	
♃ —— 3	N 44 E	44	30 42½	30 36½	251 31	257 22½	258 29	258 26¼	
♀ —— 4	N 39 E	52	29 56	29 58½	252 7	258 5½	259 13	259 10¼	
♄ —— 5	N 55 E.	24	29 44½	29 44½	252 29	258 21	259 1	259 27	N E
☉ —— 6	N 51 W	36	29 21	29 21½	251 57	257 52	258 55¼	258 58	
☽ —— 7	N 40 W	81	28 19½	28 19½	250 59	256 44	257 54½	257 51	
♂ —— 8	N 50 W	121	27 1	27 4	249 15	254 56½	256 0½	256 1¼	
☿ —— 9	S 89 W	106	27 6	27 6½	247 16	252 59½	254 35	254 7	
♃ —— 10.	S 89 W	97	27 8½	27 9½	245 28	250 57½	252 33½	252 6¼	
♀ —— 11	S 88 W	52	27 11½	27 10⅞	244 30	249 48½	251 23½	250 57¾	
♄ —— 12	S 64 W.	10	27 15½	27 17½	244 20			250 48	
	Easter Island			27 8½				250 8	
♃ —— 17	N 65 W	48	26 47½	26 48	243 10	248 19	249 2½	249 33	
♀ —— 18	N 45 W	60	26 5	26 4½	242 23	247 29	248 55½	248 44	
♄ —— 19	N 24 W	83	24 49½	24 51½	141 46	247 1½	248 5½	248 14+	
☉ —— 20	N 13 W	113	23 1½	23 1½	241 18	246 14	247 18	247 32	
☽ —— 12	N 20 W	126	21 2½	21 3½	240 31	245 24½	246 24	246 42	
♂ —— 22	N 24 W	111	19 21½	19 21	239 43	244 22½	245 20⅛	245 41	
☿ —— 23	N 41 W.	92	18 11	18 9½	238 37	243 2⅜	244 0⅛	244 22⅜	
♃ —— 24	N 43 W	78	17 13	17 6½	237 34	241 56⅞	242 54⅞	243 17⅞	
♀ —— 25	N 45 W	103	15 54	16 1½	236 18	240 39⅞	241 3⅞	242 2	
♄ —— 26	N 45 W	112	14 42	14 45½	234 55	239 13½	240 11¾	240 37+	
☉ —— 27	N 45 W	122	13 19½	13 13½	233 20	237 38½	238 36¾	239 3¼	
☽ —— 28	N 45 W	123½	11 45½	11 45½	231 50	236 2½	237 0½	237 28+	
♂ —— 29	N 45 W	125	10 21½	10 20½	230 22	234 31½	236 10½	235 59	
☿ —— 30.	N 65 W	121	9 29	9 22½	228 19	232 35½	234 4	233 54	
♃ —— 31	N 88 W	112½	9 18½	9 17½	226 25	230 16½	232 1½	231 47+	
♀ April 1	S 82 W	102	9 31½	9 29½	224 43	228 21½	229 51	229 53	
♄ —— 2	S 89 W,	90	9 31½	9 28½	223 11	226 32½	228 24¾	228 6	
☉ —— 3	S 88 W	84	9 31½	9 32½	221 46	224 49⅜	226 57¾	226 24⅞	
☽ —— 4	S 89 W	96	9 33½	9 34½	220 08	223 1½	225 2½	224 38¼	
♂ —— 5	S 89 W	84	9 34	9 33½	218 43	221 21½	223 21	223 0	
☿ —— 6	N 80 W,	71	9 21	9 19½	217 32	220 2½	221 57	221 42¼	
♃ —— 7	S 54 W	47	9 47½	9 47½	216 52	219 12½	221 16	220 54¼	
	Hood's Island,			9 26				221 8	

1774.	Course.	Dist.	Latitude South: By Account.	Latitude South: By Observation.	Longitude East: By Account.	Longitude East: By Watch K.	Longitude East: By Observation.	Longitude East: Corrected.	Swell sets.
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′	
	Onateayo.			9 58				221 9	
	Ohevahoa.			9 40½				220 58½	
	Harbour in Ohitahoo.			9 55½				220 51½	
	La Magdalena.			10 25½				221 11	
☿ April 13	S. 37 W.	68	10 50½	10 55¼	215 61½	218 0	220 3½	219 54¼	
♃ —— 14.	S. 31 W.	102	12 23	12 24¼	214 56½	217 2	219 5½	218 57½	
♀ —— 15.	S. 49 W.	116	13 39½	13 41½	213 25½	215 33½	217 18¼	217 30¼	
♄ —— 16.	S. 58 W.	68	14 17	14 17⅞	212 25½	214 16¼	216 3⅞	216 16¼	
☉ —— 17.	S. 81 W.	65	14 28	14 26½	211 18½	213 2½	215 23	215 1¼	
	Isle Taoukaa.			14 30½				214 50½	
	The island by it.			14 38				214 39	
☽ —— 18.	S. 45½ W.	35	14 54½	14 56½	210 53½	212 29¼	214 24	214 30½	
♂ —— 19.	S. 46 W.	54	15 35½	15 38¼	210 8½	211 28½	213 28	213 30½	
	Palliser's Isles			15 38¼				213 29¼	
☿ —— 20.	S. 59 W.	51	16 4¼	16 4½	209 21½	210 31	212 30½	212 34¼	
♃ —— 21.	S. 40 W.	116	17 33¼	17 32½	208 3½	208 55½	210 55½	211 0	
	Point Venus.			17 29½				210 23¼	
	Owharre Bay, N. part.			16 42½				208 50½	
	Ohamaneno Bay			16 45½				208 23½	
	Bolabola.			16 32½				208 8½	
	Maurua.			16 25½				207 27½	
☉ June 5.	S. 88 W.	54	16 46¼	16 48	207 28	207 19¾	207 10½	207 27	
☽ —— 6.	S. 88 W.	79	16 50	16 49½	206 5	206 2½	205 52½	206 0½	
	Howe's Island.			16 46½				205 53½	
♂ —— 7.	S. 75 W.	76	17 9½	17 9½	204 47	204 46	204 36¾	204 49	
☿ —— 8.	S. 52 W.	40	17 33¼	17 32½	204 14	204 6¼	203 57	204 11½	
♃ —— 9.	S. 85 W.	43	17 36¼	17 38½	203 29	203 28¾	203 19½	203 35¼	
♀ —— 10.	S. 79 W.	46	17 47½	17 48	202 41	202 48½	202 39¼	201 57½	
♄ —— 11.	S. 78 W.	41	17 56¼	17 55¼	201 58	202 7½	201 58¾	202 18½	
☉ —— 12.	S. 74 W.	75	18 16	18 10½	200 43			200 56	
☽ —— 13.	S. 71 W.	118	18 49	18 45½	198 45	198 34¼	198 12⅞	198 50	
♂ —— 14.	N. 83 W.	74	18 36½	18 35½	197 27	197 7	197 58¼	197 25	
☿ —— 15.	N. 68 W.	13	18 29	18 27½	197 15	196 59¼	197 58¼	197 20	
♃ —— 16.	N. 71 W.	36	18 15½	18 11½	196 40	196 35⅞	197 49½	196 58¼	
	Palmerston's Island.			18 0				197 3	
♀ —— 17.	N. 84 W.	69	18 4½	18 2¼	195 28	195 20½	196 10⅞	195 44¼	
♄ —— 18.	S. 82 W.	77	18 14	18 12	194 8	193 54½	194 45¼	194 21	
☉ —— 19.	S. 79 W.	80	18 29½	18 25	192 45	192 20½	192 35¼	192 49	
☽ —— 20.	S. 77 W.	104	18 48½	18 49¼	90 58	190 37½	190 47½	191 9	
♂ —— 21.	S. 70 W.	43	19 4	18 57½	190 16	189 54	190 28½	190 26	
	Savage Island.			19 2¼				190 29¼	
☿ —— 22.	S. 59 W.	48	19 21¼	19 23½	189 32	189 15½	189 57½	189 48½	
♃ —— 23.	S. 67½ W.	89	19 57	19 49½	188 5	187 52	188 53½	188 25	
♀ —— 24.	S. 76 W.	107	20 14¼	20 24¼	186 14	185 59	187 0½	186 32	
♄ —— 25.	N. 87 W.	25	20 23¼	20 20	185 48	185 23½	186 24⅞	185 56½	
☉ —— 26.	S. 53 W.	15	20 28	20 23¼	185 35	185 0¼	186 1¼	185 32¼	

1774	Courſ	Diſtance	Latitude South		Longitude East				[illegible]
		Miles	By Account	By Obſervation	By Account	By Watch	By Obſervation	Corrected	
	Iſland Tellctageo			20 31¼				185 30¾	
	Tonamai			20 28				185 28¼	
	Commango			20 19½				185 31	
	Comango ette			20 18½				185 32	
	Annamocka			20 16				185 29½	
	Annamocka ette			20 17¼				185 27	The Friendly Iſles
	Aggoau			19 39¼				185 17	
	Mattafoa			19 44½				185 13	
	Others extend from			19 37½				185 10	
	to			20 32½				185 50	
☿ June 29	North	5	20 10	20 5⅜	185 32		185 2⅞	185 31	
♃ —— 30	N 40 W	24	19 52	19 51¼	185 14½		184 33	184 33¼	
♀ July 1	S 88 W	85	19 55¼	19 54½	183 44	183 26⅝	182 52	183 58	N N L
♄ —— 2	S 84 W	82	20 2¾	20 3	182 17	181 48	181 52¼	182 20	
☉ —— 3	N 40 W	19	19 48¾	19 47	182 4½	181 31⅛	181 56	182 3	
	Turtle Iſland			19 48¾				182 3	
	Reef off it			19 53¼				181 58	
☽ —— 4	S 48 W	29	20 6	20 4⅝	181 41½	181 1⅞	181 48⅞	181 33¼	
♂ —— 5	S 62 W	74	20 40	20 28½	180 30	179 52¼	180 33⅞	180 2¼	
☿ —— 6	S 72 W	63	20 58½	20 55	179 27	178 42	179 23⅞	179 14	
♃ —— 7	N 86 W	54	20 51	20 50	178 30	177 50	178 31⅝	178 21¼	
♀ —— 8	N 77 W	65	20 36	20 36½	177 23	176 44	177 25	177 15⅝	
♄ —— 9	N 71 W	59		20 23½	176 23	175 41	176 22⅛	176 1	
☉ —— 10	N 47 W	47	19 51	19 53	175 46	174 57½	175 39	175 29	
☽ —— 11	N 24 W	96	18 26	18 26	175 4	174 25½	175 7	174 57	
♂ —— 12	N 52 W	85	17 19	17 20	174 8	173 37	174 18⅞	174 9	
☿ —— 13	N 41 W	70	16 27	16 25	173 20	172 51⅞	173 28	173 23⅞	
♃ —— 14	N 45 W	60	15 43	15 39	172 35	172 0	172 24	172 32	
♀ —— 15	N 65 W	69	15 10¼	15 9	171 30	170 47⅞	171 26¼	171 20⅛	
♄ —— 16	S 89 W	121	15 11¼	15 5	169 25	168 40	169 18⅞	169 13¼	
☉ —— 17	N 81 W	28	15 0	14 59½	168 56			168 42	
☽ —— 18	S 83 W	34	15 4½	15 1½	168 21	167 31⅞	168 10¼	168 1	
♂ —— 19	S 8 W	24	15 24½	15 12½	168 18	167 37	168 16	168 11	
	Aurora, { North End			14 52				168 13	
	South End			15 24				168 20¼	
	Leper's Iſland, { N E End			15 16¼				168 10¾	
	S W End			15 30				167 45½	
☿ —— 20	S 65 E	15	15 18½	15 28½	168 32	167 41⅛	168 24¼	168 15½	
♃ —— 21	S 22 W	39	16 4¼	16 17¼	168 12	167 27	168 9	168 1¾	
	Whitſunside Iſle, { N End			15 28½				168 21	
	S End			16 0				168 19	
	Ambrym, { N E End			16 4				168 21½	
	W End			16 15				168 3½	
	Sandwich Harbour			16 25½				167 53	
I —— 3				16 24½		167 21¼	168 13¾	167 57½	
	Cape Sandwich			16 28				167 59	
	Maſkelyne's Iſlands, {			16 30				167 58½	
				16 33¼				168 1½	

1774.	Courſe.	Diſtance.	Latitude South By Account.	Latitude South By Obſervation.	Longitude Eaſt By Account.	Longitude Eaſt By Watch K.	Longitude Eaſt By Obſervation.	Longitude Eaſt Corrected.	Swell fets.
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′	
	Maſkelyne's Iſlands,			16 32½				167 59¼	
				16 33				167 57¼	
	Paoom.			16 30				168 28¼	
☉ July 24.	S. 28 E.	26	16 48	16 59	168 27			168 26¼	
	Apæ; South Eaſt End.			16 53½				168 37	
	Apæ; North Weſt End.			16 39				168 18	
	Three-Hill Iſland.			17 4				168 35	
	Its weſtern Hummock.			17 5				168 32	
	Reef of its Weſt End.			17 8½				168 28¼	
	Shepherd's Iſlands,			16 56				168 41¼	
				16 52				168 42	
				16 58				168 43¼	
				17 1				168 42	
				17 1½				168 43½	
				17 3½				168 43	
	One-Hill Iſland.			17 7½				168 36	
	Two-Hill Iſland.			17 13				168 35¼	
	The Monument.			17 14¼				168 38¼	
☽ —— 25.	S. 26 E.	31	17 15½	17 18⅛	168 42	168 1⅞	168 53⅞	168 37⅓	
♂ —— 26.	S. 38 E.	14	17 29	17 31	168 53	168 0	168 52	168 41	
	Sandwich's Iſland from			17 29				168 20¼	
				17 53				168 45¼	
	Hinchinbrook Iſland.			17 25				168 38	
	Montagu Iſland.			17 26				168 31¼	
☿ —— 27.	S. 58 E.	55	18 0½	18 0¼	169 42	168 42	169 42¼	169 19¼	
♃ —— 28.	S. 56 E.	47	18 26¾	18 24⅞	170 22	169 9⅛	169 30¼	169 47½	
♀ —— 29.	S. 50 E.	14	18 34½	18 30½	170 34	169 28	170 15¼	170 6¼	
♄ —— 30.	S. 72 W.	34	18 41	18 33½	170 0	169 1¼	169 49¼	169 42⅔	
☉ —— 31.	N. 27 W.	13	18 22¼	18 21	169 53	168 55½	169 20⅓	169 34⅔	
☽ Aug. 1.	S. 46 W.	33	18 44	18 37½	169 28	168 33½	169 0	169 13⅔	
♂ —— 2.	S. 50 W.	15	18 46½	18 46⅛	169 16	168 26	169 10¼	169 2⅓	
	Traitor's Head.			18 43½				169 20¼	
	Small Iſland off it.			18 41				169 26	
	Erramanga from			18 36½				169 9	
				18 56½				169 28	
☿ —— 3.	N. 70 E.	22	18 38	18 36½	169 38	168 47⅞	169 17¼	169 18¼	
	Tanna from			19 16½				169 21	
				19 38½				169 43	
	Port Reſolution, in Tanna.			19 32⅗				169 44⅓	
	Immer.			19 16				169 46	
	Irraname.			19 31				170 21	
	Enatum.			20 10				170 4	
♄ —— 20.				19 24				169 46	
☉ —— 21.	S. 79 E.	32	19 32½	19 33⅔	170 11	169 18¼	170 29	170 4⅔	
☽ —— 22.	N. 50 W.	97	18 19⅓	18 18⅕	169 4	168 0⅞	169 11⅙	168 47⅓	
♂ —— 23.	N. 28 W.	133	16 21	16 23⅙	167 59	166 49½	168 0⅛	167 35⅘	

1774.		Course	Distance	Latitude South By Account	Latitude South By Observation	Longitude East By Account	Longitude East By Watch K	Longitude East By Observation	Longitude East Corrected	Swell sets
		°	Miles		°	°		° ′		
		Mallicola from			15 53				167 19½	
					16 38				167 59	
		South Cape			16 38				167 42½	
		South West Cape			16 31				167 36½	
		St. Bartholomew's Island			15 42				167 17½	
☿ Aug	24	N 11 E	70	15 16½	15 23½	168 11	166 46⅜	167 57½	167 32¾	
		Cape Quiros			14 56				167 20	
♃ ——	25	N 33 W	39	14 50	14 55¼	167 49	166 19⅞	167 30⅛	167 2⅝	
♀ ——	26	S 69 E	14	15 0¼	15 5	168 2	166 27	166 51½	167 10	
♄ ——	27	N 14 W	24	14 42	14 39¼	167 55	166 11⅛	167 3⅛	166 54½	
		Cape Cumberland			14 39¼				166 47	
☉ ——	28	S 60 W	24	14 51¼	14 50½	167 34	165 55½	167 13⅝	166 38½	
☽ ——	29	S 49 W	12	14 58½	14 58½	167 24	165 51	166 50	166 34	
♂ ——	30	S 10 W	17	15 15½	15 19⅞	167 20	165 54⅛	166 16½	166 37½	
☿ ——	31	S 27 E	24	15 41	15 45	167 32	166 6½	166 52	166 49¼	
		Cape Lisburne			15 40¼				166 57	
		Table Island			15 38				167 7	
♃ Sept.	1	S 35 W	54	16 29½	16 33½	166 55	165 28¼	166 16⅞	166 11¼	
♀ ——	2	S 18 W	88	17 56	18 6½	166 23	164 42¼	165 30⅞	165 25¼	
♄ ——	3	S 17 W	55	18 59¼	19 3½	166 6	164 15	165 3½	164 58	
☉ ——	4	S 11 W	52	19 50¼	19 50¼	165 53	164 0½	164 48½	164 43½	
☽ ——	5	S 10 W	9	20 8¼	20 16½	165 49½			164 40¼	
		Pudyoua, or Observ. Island			20 18½				164 41½	
		Island Ballabea			20 7				164 22	
		Cape Colnet			20 30				164 56	
♂ ——	13	N 23½ W	26	19 54	19 53½	165 39	163 42½	164 17½	164 26	
☿ ——	14	N 27 W	31	19 26	19 28¼	165 24	163 27	163 46¼	164 10½	
♃ ——	15	N 11 W	22	19 7	19 15¼	165 18½	163 20⅛	163 41⅛	164 3¼	
♀ ——	16	S 47 E	22	19 31	19 34½	165 35½	163 36½	163 57¼	164 20½	
♄ ——	17	S 49 E	26	19 51¼	19 53¼	165 56½	164 4¼	164 26	164 46½	
☉ ——	18	S 49 E	16	20 4¼	20 4	166 11½			165 1	
☽ ——	19	S 51 E	33	20 24	20 26	166 36½			165 28½	
♂ ——	20	S 63 E	27	20 36¼	20 41	167 2	165 4½	165 25½	165 48	
☿ ——	21	S 78 E	20	20 45¼	20 54½	167 23	165 24½	166 7½	166 8¼	
♃ ——	22	S 42 E	40	21 24¼	21 25½	167 53	166 1¼	166 47	166 45¼	
♀ ——	23	S 34 E	31	21 52	21 53½	168 13½	166 23⅛	167 8¼	167 7½	
		Cape Coronation			22 5				167 8	
♄ ——	24	S 54 E	27	22 9¼	21 59½	168 37½	166 42⅛	167 50⅞	167 26½	
		Q. Charlotte's Foreland			22 15				167 12¼	
☉ ——	25	S 11 W	17	22 16½	22 10¼	168 33½	166 38¼	167 53⅛	167 22½	
☽ ——	26	S 54 E	18	22 21	22 16	168 48½	166 50¼	168 6	167 35	
♂ ——	27	S 67 E	28	22 27	22 32½	169 16½	167 8⅝	168 23⅞	167 52¼	
☿ ——	28	S 59 W	22	22 43½	22 44½	168 54½	166 45½	168 0¼	167 29¾	
		Isle of Pines			22 38				167 38	
♃ ——	29	S 29 W	20	22 27	22 26½	168 42½	166 30⅞	167 28¼	167 15½	
		Botany Island			22 26½				167 16¼	
♀ ——	30	S 18 E	7	2 33½	22 34½	168 45	166 34½	167 42¼	167 18	

1774.	Course.	Distance.	Latitude South. By Account.	Latitude South. By Observation.	Longitude East. By Account.	Longitude East. By Watch K.	Longitude East. By Observation.	Longitude East. Corrected.	Ship rolls.	Swell from
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′		
♄ Oct. 1.	S. 66 E.	58	22 58	22 56⅓	169 43	167 33¼	168 30¼	168 18⅕		
☉ —— 2.	S. 26 E.	52	23 19⅓	23 19⅓	170 33	168 47¼	169 56¼	169 32¼		N. E.
☽ —— 3.	S. 28 E.	68	24 19⅓	24 4¼	170 59	169 27¼	170 36¼	170 13¾		N. E.
♂ —— 4.	S. 26 E.	81	25 17	25 28	171 44	170 31	171 40½	171 17½		
☿ —— 5.	S. 9 E.	87	26 53¼	26 53	171 59	170 50½	172 0	171 37⅕		
♃ —— 6.	S. 4 E.	62	27 54¼	27 52	172 3½	170 58⅛	172 4⅛	171 45⅝		
♀ —— 7.	S. 79 W.	3	27 52⅓	27 52	172 0½	170 57	172 3	171 45		
♄ —— 8.	S. 62 W.	71	28 25⅓	28 24⅙	170 49	169 42½	171 3½	170 31		
☉ —— 9.	S. 58 W.	63	28 58	28 54¼	169 48	168 35¼	168 57½	169 24¼		
☽ —— 10.	S. 88 W.	57	28 58	28 57⅓	168 42	167 21	168 14¼	168 10		
	Norfolk Island.			29 1¼				168 10		
♂ —— 11.	S. 11 E.	23	29 20	29 21⅙	168 47	167 19¼	167 41⅛	168 8		
☿ —— 12.	South.	100.7	31 1¼	31 1½	168 47	167 2¼	167 30½	167 50½		
♃ —— 13.	S. 15 E.	106	32 43½	32 54½	169 21	167 35	168 26	168 22¼		
♀ —— 14.	S. 39 E.	87	34 2	34 2⅓	170 26	168 41⅞	169 17¼	169 28⅙		
♄ —— 15.	S. 41 E.	119	35 32	35 32	172 2	170 11¼	170 47⅛	170 56¾		
☉ —— 16.	S. 34 E.	140	37 28	37 33	173 42	171 55¼	172 31⅛	172 40⅛		
☽ —— 17.	S. 28 E.	120	39 19	39 24	174 57	173 1⅛	173 36⅛	173 45⅛		
	Q. Charlotte's Sound.			41 6				174 18 7/10		

It being a matter curious in itself, and perhaps of some use, to know the greatest angle which a ship lies down to, when going on a wind, or that she rolls when going before it in a high sea, I contrived, whilst in the Sound, to fix a graduated circle to one of the beams of the ship that passed through my cabin: an axis, passing through the center, carried a long slender rod, which had a pretty large leaden ball fixed to its lower end, whilst the upper end, above the center, served as an index to point out the degree which the ship rolled to, on the circle. The axis moved smoothly in its socket, and just free enough to let the ball turn it as the ship rolled. The upper end of the rod was adjusted to point exactly to O when the ship was upright in the Sound; and for the remainder of this Journal I have added another column, wherein is inserted the degrees to which, at different times, I observed the above-mentioned index point to.

♀ Nov. 11.	S. 33 E.	69	42 20½	42 21½	175 29	175 22⅛	174 54½	175 15⅞		
♄ —— 12.	S. 22 E.	64	43 20½	43 13½	176 2	175 50¼	175 27½	175 43½		
☉ —— 13.	S. 39 E.	83	44 18	44 32	177 14	177 13	176 50⅛	177 6		
☽ —— 14.	S. 41 E.	108	45 39¼	46 7½	178 54			178 52	14	
♂ —— 15.			47 5	47 47½	181 15½	181 11¼	180 49½	181 4¼	09	
☿ —— 16.	S. 42 E.	124	49 19¼	49 33⅝	183 39¼	183 26⅞	183 4¼	183 19½	23	

It was this afternoon discovered, that the preceding differences between the log and observed latitudes were owing to the log-line having been marked, by mistake, a whole knot wrong: Corrected it.

♃ —— 17.	S. 41 E.	127	51 8½	51 10½	185 50½	185 57¾	185 35⅛	185 50	40½	
♀ —— 18.	S. 50 E.	141	52 39	52 44½	188 45½	188 58¾	188 36⅛	188 50¾		
♄ —— 19.	S. 64½ E.	137	53 44⅛	53 41½	192 21½			192 53		
☉ —— 20.	S. 76 E.	134	54 13	54 12½	196 4½			197 2½	14½	
☽ —— 21.	S. 30 E.	101	55 40	55 39	197 34½			198 59		
♂ —— 22.	S. 85 E.	118	55 50½	55 48½	201 4½	203 4⅞	192 42½	202 55⅞	90	

1774	Course	Distance Miles	Latitude South By Account	Latitude South By Observation	Longitude East By Account	Longitude East By Watch K.	Longitude East By Observation	Longitude East Corrected	Ship roll	Swell from
☿ Nov 23	N 82 E	45	55 42	55 42½	202 24½	204 49	201 26	201 39¾	33	
♃ —— 24	N 86 E	80	55 37	55 32½	204 47	207 18	206 56	207 9¼	10	
♀ —— 25	N 80 E	141	55 7½	55 9½	208 49	211 55¼	211 32	211 15¼	14	
♄ —— 26	N 89 E	168 2	55 6¼	55 6	213 42			216 53	15	
☉ —— 27	N 89 E	183	55 2¼	55 3	219 2	222 38	222 15	222 27¼	13	
☽ —— 28	S 82 E	166	55 24	55 25¾	223 40			227 14		
♂ —— 29	N 88 E	153	55 18½	55 22	228 10			231 5½	31	
☿ —— 30	S 78 E	39	55 26½	55 31½	229 17			233 7¼		
♃ Dec 1	N 88 E	56	55 29½	55 32	231 3			235 2	13	
♀ —— 2	N 64½ E	90	54 50½	54 55½	233 26	237 44	237 22	237 33½		
♄ —— 3	N 38 E	70	54 0¼	54 0¼	234 41			238 38	18	N
☉ —— 4	N 69½ E	117	53 19	53 15¼	237 49	241 49	241 25	241 36		N
☽ —— 5	N 87 E	129	53 8½	53 7½	241 23½	245 22	245 0	245 10		N
♂ —— 6	S 89 E	168	53 11	53 10½	246 3¼	249 37	249 10	249 20	38	
☿ —— 7	S 86 E	120	53 19	53 19⅛	249 23	252 45	252 17	252 32		
♃ —— 8	S 84 E	99	53 29½	53 31	252 7	255 21	255 1	255 11		N L
♀ —— 9	S 89 E	76	53 32½	53 37½	254 17			257 17	14	W
♄ —— 10	S 70 E	64	53 59½	53 53½	255 58	259 6¼	258 44	2[illegible] 53		
☉ —— 11	N 87 E	180	53 49½	53 37½	261 3	264 2¼	263 41	263 49		
☽ —— 12			53 42	53 24½	265 2	268 4¼	267 30	267 50		
♂ —— 13	N 89 E	74	53 24	53 23¾	267 5	270 9¼	270 39	269 55¼		
☿ —— 14	S 89 E	127 3	53 26	53 25½	270 41	273 27⅞	273 57	273 13		
♃ —— 15	S 87 E	120	53 31½	53 30½	274 5	276 49¼	277 19¼	276 35		
♀ —— 16	N 88 E	132½	53 25½	53 26½	277 50	280 32⅞	281 2⅝	280 18		
♄ —— 17	N 88½ E	118	53 24½	53 21⅓	281 4	283 41	284 11	283 26		
	Cape Diffeada			53 4¼				285 42		
☉ —— 18	S 72 E	114	53 57	54 12¼	284 9	286 47	287 16	286 31¾		
	Cape Noir			54 32½				287 56¾		
☽ —— 19	S 55 E	100	55 10½	55 20½	286 29	289 16¼	289 45¾	289 0		
♂ —— 20	S 67 E	36	55 39½	55 39½	287 22	290 7½	290 36	289 51⅜		
	Christmas Sound			55 22				289 59		
☿ —— 28				55 32½	287 44½	290 26	290 18¾	290 5⅛		
	St Ildefonso's Isles			55 51				290 32		
	Cape Horn			55 59				292 34		
	Barnevelt's Isles			55 49				293 2		
	Evout's Isles			55 34½				293 1		
♃ —— 29	S 78 E	92	55 43½	55 43⅞	290 32	293 44	293 36⅞	293 2½		
♀ —— 30	N 26 E	26	55 20½	54 53	290 56	295 20¼	295 13	294 59½		
	Cape Success			55 1				294 33		
	Success Bay			54 49¾				294 35		
	East Cape of Staten Land			54 53¾				295 13¼		
	Cape St Anthony			54 46¾						
	Cape St. Diego,			54 33				294 46		
♄ —— 31	N 88 E	23	54 52¼	54 42½	291 46	296 4⅗	295 56¾	295 49¼		

1774.	Course.	Distance.	Latitude South: By Account.	Latitude South: By Observation.	Longitude East: By Account.	Longitude East: By Watch K.	Longitude East: By Observation.	Longitude East: Corrected.	Ship rolls.	Swell sets.
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′		
	Ship at anchor off New Year's Isle.			54 41				295 46		
	New Year's Harbour.			54 48 11/12				295 49		
	Cape St. Juan.			54 47⅛				296 13		
1775.										
♂ Jan. 3.	S. 8 W.	19	55 3	54 55⅘	291 48	296 15	296 7⅓	295 54		
☿ —— 4.	S. 51 E.	75	55 42⅔	55 32⅔	293 31	298 12½	298 4⅞	297 51½		N. E.
♃ —— 5.	S. 49 E.	138	57 3⅔	57 8¼	296 50	301 47¾	301 40⅛	301 26¾		
♀ —— 6.	S. 70 E.	118	57 49	57 51⅓	300 17	305 40¼	305 2	305 19¼		
♄ —— 7.	N. 46 E.	63	57 7⅔	57 0⅛	301 54	307 11⅛	306 47	306 50⅛		
	Sounded: no ground with 150 fathoms.									
☉ —— 8.	N. 26 E.	94	55 32¾	55 8⅔	303 11	308 19¼	307 37⅛	307 58¾		
☽ —— 9.	S. 88 E.	71	55 10¼	55 11⅞	305 18			310 13¼		
♂ —— 10.	N. 49 E.	50	54 40	54 35::	306 32			311 36¼		
☿ —— 11.	S. 87 E.	108	54 41⅓	54 36¼	309 39⅓	315 15½	314 32⅞	314 54½		
♃ —— 12.	N. 85 E.	79	54 29¾	54 28¼	311 56½			317 10¾		
♀ —— 13.	S. 52 E.	62	55 6¼	55 0½	313 20½			318 32¾	15	S. W.
♄ —— 14.	N. 52 E.	86	54 14	53 56¼	315 15½	320 46¾	320 4⅛	320 25¾		
	Sounded several times, and had 175 and 120: bottom mud.									
☉ —— 15.	S. 39 E.	44	54 30¼	54 29½	316 2½			321 7½		
	Sounded: 110 fathoms; the bottom mud.									
☽ —— 16.	N. 82 E.	24	54 27	54 25¼	316 43	322 2⅛	321 20	321 41⅓		
	Willis's Isles.			54 0				321 30⅓		
	Cape North.			54 4¼				321 45		
	Cape Buller.			53 58½				322 20		
♂ —— 17.	N. 63 E.	41	54 6¼	54 0¾	317 44	323 4⅛	322 21¼	322 43⅓		
	Cape Saunders.			54 6½				323 2½		
	Cape George.			54 17				323 27½		
	Cape Charlotte.			54 32				323 48½		
☿ —— 18.	S. 59 E.	59	54 31¼	54 30⅛	319 12	324 30¼	323 47⅝	324 9¼		
	Sounded: 80 fathoms; bottom mud.									
♃ —— 19.	S. 7 E.	17	54 47	54 42⅔	319 15	324 32⅓	323 49⅞	324 11⅓		
	The Lurker, off Sandwich Bay.			54 42				324 1		
	Cooper's Island.			54 57				323 55⅔		
♀ —— 20.	S. 35 W.	23	55 2	55 3¾	318 53	324 9⅞	323 26⅞	323 48⅞	39	
	Sounded: no ground with 120 fathoms.									
	Cape Disappointment.			54 58				323 45		
	Green Isles.			54 59				323 45		
	Pickersgill's Island.			54 42½				323 2		
	Clerke's Isles.			55 5½				325 18		
♄ —— 21.	S. 75 E.	48	55 16¼	55 16½	320 13	325 43⅔	325 0½	325 22⅔		
☉ —— 22.	N. 32 E.	21	54 59	54 59½	320 32			325 36⅔		
☽ —— 23.	S. 63 W.	15	55 5¼	55 6½	320 9			325 8⅔		
	Sounded: and had 60 and 75 fathoms; bottom shells.									
♂ —— 24.	N. 54 E.	10	54 59¼	55 1	320 24			325 18⅔		

1775	Courſe	Diſtance	Latitude South		Longitude Eaſt				Ship rolls	Swell from
	°	Miles	By Account	By Obſervation	By Account	By Watch K	By Obſervation	Corrected		
☿ Jan 25	S 44 E.	81	55 57¾	56 0½	322 2⅓	327 12¼	326 29	326 51¼		
♃ — 26	S 41 E	111	57 23¾	57 38½	324 14½	329 18⅝	329 13	328 57½		
♀ — 27	South	123	59 41½	59 44	324 14½	329 21⅞	329 16¼	329 0⅝		
	Sounded No ground with 140 fathoms									
♄ — 28	S 59 E	33	59 58¼	60 5½	324 56½	330 55¼	330 50	330 84¼		
☉ — 29	N 58 W	13	59 57	60 1½	324 31½			330 13¾		
☽ — 30	N 30 E	31	59 34½	59 34	325 2½			330 49¼		
	Friezland's Peak			59 2				333 4		
	Cape Briſtol			59 2½				333 9		
	South Thule			59 34				332 15		
♂ — 31	N 69 E	59	59 13½	59 12½	326 48½	333 1	332 56	332 40¼		
☿ Feb 1	N 3 E	46	58 26¼	58 25	326 63½	333 6	333 1	332 45		
	Sounded No ground with 160 fathoms									
	Cape Montagu			58 33				333 14		
♃ — 2	N 3 E	37	57 47	57 46	326 58	333 29	333 23⅚	333 8		
	Sounded No ground with 220 fathoms									
	Saunders's Iſle			58 0				333 2		
♀ — 3	N 8 E	31	57 16½	57 15	327 6			333 8		
	Candlemas Iſles			57 10				332 47		
♄ — 4	N 52 E	39	56 47½	56 44	328 7	334 34¼	334 29	334 13¾		N W
☉ — 5	S 72 E	68	57 5	57 9	330 4½	336 31	336 26¼	336 10		
☽ — 6	S 39 E	88	58 18	58 19	331 48½			337 56¼		
♂ — 7	S. 88 E.	116	58 22¼	58 24¼	335 33½	342 5	342 0¼	341 44		
☿ — 8	S 81 E	106	58 40	58 29⅞	338 53½	345 27	345 21¼	345 6		
♃ — 9	N 85 E	47	58 26	58 26½	340 23½	347 5	347 0¼	346 41		
♀ — 10	N 81½ E	76	58 15	58 15	342 57½	349 32¼	349 27	349 11¼		
♄ — 11	S 89 E.	80	58 16	58 6½	345 27	352 11¼	352 6	351 50¼		
☉ — 12	S 81 E	27	58 11	58 20½	346 20	353 32	353 26⅞	153 11		S I
☽ — 13	N 66 E	59	57 56½	57 56½	348 1	355 34	355 28¼	355 13	12	Weſt
♂ — 14	N 75 E	120	57 23½	57 23¾	351 47	359 35½	359 30	169 14⅜	37	Eaſt
♂ — 14	N 75½ E	157	56 43¼	56 37	356 35	4 20½	4 15¼	3 59		
	Dropped 360° and repeated a day									
☿ — 15	N 40 E	82	55 34½	55 26½	358 15½	6 2	5 56¼	5 41		
♃ — 16.	N 17 E.	58	54 31½	54 31½	358 45	6 22	6 16⅞	6 1⅛		
♀ — 17	N 85½ E.	98	54 23¾	54 23⅞	1 35	8 58¾	8 37½	8 37¼		North
♄ — 18	Eaſt.	111 3	54 24	54 23½	4 47			11 56¼		
☉ — 19	N 74 E	35	54 13½	54 11	5 45			13 1¾		
☽ — 20	S 85½ E	105	54 21½	54 15½	8 45	16 29	16 18¼	16 8		N E
♂ — 21	S. 85½ E	82	54 22	54 24½	11 6	18 55⅛	18 33¼	18 34¼		
☿ — 22.	S 69 E.	118	55 7	55 10¼	14 21	22 10¾	22 2	21 50		S by W
♃ — 23	N 61 E	101	54 21½	54 26	16 54			24 39	18	
♀ — 24	N 31 E	106	52 56½	52 51¼	18 30½	26 52¼	26 6	26 31¾		
♄ — 25	N 29 E.	148	50 42¼	50 33½	20 33½	29 0½	28 19¼	28 40		
☉ — 26	N 31 E	88	49 18	49 20¼	21 43½	30 17½	29 45½	29 57¾		
☽ — 27	N 47 E.	97	48 15	47 58½	23 57½			31 53¼		
♂ —	N 7 E.	82	47 13¾	46 58¼	26 12½	34 10½	33 38¼	33 50½		S E b E

1775.	Courſe.	Diſtance.	Latitude South		Latitude Eaſt				Ship rolls.	Swell ſets.
			By Account.	By Obſervation.	By Account.	By Watch K.	By Obſervation.	Corrected.		
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′		
☿ March 1.	N. 71 W.	92	46 28¼	46 28	24 10¼			31 45½		
♃ —— 2.	N. 30 W.	63	45 33¼	45 32⅞	23 25	31 15⅞	30 43⅞	30 56	39	
♀ —— 3.	N. 25 W.	100	44 2⅙	43 53⅜	22 20	30 7⅜	29 35⅜	29 47⅝		E. S. E.
♄ —— 4.	N. 85 W.	52	43 49	43 46¼	21 8	29 9¼	28 37¼	28 49½		E. S. E.
☉ —— 5.	N. 59¼ W.	73	43 46¼	43 49¼	19 27	27 33	27 1	27 13⅛		E. S. E.
☽ —— 6.	N. 9 W.	79	42 31¼	42 23¼	19 7	27 33¼	26 59½	27 14¼		Eaſt.
♂ —— 7.	N. 52 W.	41	41 59	41 48¾	18 24	26 44¼	26 10⅞	26 25		N. E.
☿ —— 8.	S. 62 W.	31	42 3	41 47⅞	17 47	26 13⅞	25 40⅛	25 54⅞		
♃ —— 9.	S. 71 W.	46	42 2¼	42 6	16 49	25 18¾	24 45⅜	25 0		
♀ —— 10.	N. 31 W.	78	40 59¼	40 56⅜	15 55	24 23⅛	23 51⅛	24 4⅞		Eaſt.
♄ —— 11.	N. 58 W.	47	40 32	40 3	15 2	23 59	23 26⅛	23 40¾		
☉ —— 12.	N. 11 W.	42	39 22	38 50⅝	14 50	24 34⅛	24 2⅛	24 16⅛		
☽ —— 13.	N. 45¼ W.	121	37 25⅙	37 18⅛	13 10	22 50⅛	22 18¼	22 32¾		
♂ —— 14	N. 15 E.	76	36 5	36 27½	13 35	22 33	22 0¼	22 15½		
	Sounded: 80 fathoms, ſtony ground.									
☿ —— 15.	N. 17 E.	62	35 28	35 16	14 2	22 34⅛	22 2⅛	22 17⅜		
	Sounded, and had 56 fathoms.									
♃ —— 16.	N. 47 W.	27	34 57¼	34 49	13 38	22 14¼	22 20⅛	21 57⅞		
	Saw land. Sounded, and had 40 fathoms.									
♀ —— 17.	S. 72 W.	50	35 4¼	35 2	12 43	21 10⅛	20 39	20 53¾		Eaſt.
	Sounded, and had 50 fathoms.									
♄ —— 18.	N. 83 W.	9	35 0¼	34 59¼	12 33	20 53⅛	20 22	20 36		
☉ —— 19.	N. 83 W.	23	34 57	34 51⅛	12 5	20 20¼	19 48⅜	20 4		
☽ —— 20.	N. 61 W.	93	34 6¼	34 13	10 25¼	18 12⅛	17 40⅞	17 56⅛		
	Cape Town.			33 55¼				18 23¼		
♀ April 28.	N. 58 W.	101	33 2¼	32 50	16 41	16 19⅞		16 19⅞		
♄ —— 29.	N. 57 W.	140	31 33¼	31 31	14 23	13 47		13 47		
☉ —— 30.	N. 58 W.	127	30 24¼	30 17⅜	12 17	11 31¼		11 31¼		
☽ May 1.	N. 51 W.	98	29 16	29 12	10 49	9 55¼		9 55¼		
♂ —— 2.	N. 51 W.	95	28 12	28 11⅛	9 25	8 23		8 23		
☿ —— 3.	N. 50 W.	101	27 5¼	27 1	7 49¼	6 58	7 7¼	6 58		
♃ —— 4	N. 38 W.	35	26 32¼	26 34	7 25	6 36⅛	6 29⅛	6 36⅛		
♀ —— 5.	N. 36 W.	39	26 3¼	26 2	6 59					
♄ —— 6.	N. 45¼ W.	86	25 1⅜	25 0¼	5 51	4 56	4 49	4 56		
☉ —— 7.	N. 44 W.	122	23 33	23 27¼	4 12	3 19⅛	3 29⅛	3 19⅜		
☽ —— 8	N. 44 W.	110	22 8	22 5	2 46	1 49	2 4⅛	1 49		
♂ —— 9.	N. 48 W.	109	20 51¼	20 46¼	1 13	0 14⅛	0 23	0 14⅛		
						Weſt.	Weſt.			
☿ —— 10.	N. 48 W.	91	19 44¼	19 39	0 5	0 58½	0 49⅜	0 58½		
♃ —— 11.	N. 47 W.	78	18 46¼	18 52⅝	1 05	2 9⅛	2 2¼	2 9⅛		
♀ —— 12.	N. 48 W.	37	18 28¼	18 27¼	1 35	2 41	2 15⅝	2 41		
♄ —— 13.	N. 42 W.	60	17 43	17 43⅛	2 19	3 19	2 53⅛	3 19		North.
☉ —— 14	N. 42 W.	75	16 47	16 46⅞	3 12	4 19⅛	4 9⅛	4 19⅛		N. E.
☽ —— 15	N. 52 W.	72	16 3	16 1¼	4 13	5 16¼		5 16¼		
	St. Helena.			15 55⅛				5 49		
☽ —— 22.	N. 55 W.	47	15 28	15 24	6 29¼	6 28⅜	7 22¼	6 29½		

1775	Course	Distance.	Latitude South		Longitude West				Ship rolls	Swell from
		Miles	By Account ′	By Observation	By Account	By Watch k	By Observation ′	Corrected ′		
♂ May 23	N 58 W	104	14 29	14 33½	8 1	8 1	8 38¾	8 1¼		
☿ —— 24	N 58 W	134	13 22½	13 30½	9 58	9 54	10 7½	9 54½		
♃ —— 25	N 29 W	129	11 38	11 42½	11 3	11 2½	11 31½	11 3		
♀ —— 26	N 23 W	123	9 49½	9 55⁹⁄₁₀	11 55	11 56⅜	12 25⅞	11 57⅓		
♄ —— 27	N 36 W	117	8 21	8 22⅓	13 3	13 3½	13 32½	13 3⅞		
☉ —— 28	N 70 W	68	7 57½	7 58⅞	14 7	14 11½	14 40	14 11⅞		
Ascension				7 57				14 30		
♃ June 1	N 44 W	81	6 57	6 59½	15 27	15 31½	15 7⅓	15 30⅓		
♀ —— 2	N 83 W	95	6 48	6 43½	17 2	17 19½	17 5⅞	17 17⅓		
♄ —— 3	N 82 W	116	6 27½	6 26½	18 58	19 28	19 23⅜	19 25		
☉ —— 4	N 81 W	125	6 7	6 0½	21 2	21 39	21 4⅓	21 35		
☽ —— 5	N 80 W	121	5 39½	5 39	23 2	23 49	23 15½	23 43		
♂ —— 6	N 78 W	129	5 12½	5 8⅓	25 9	26 7⅓	25 44	26 0⅓		
☿ —— 7	N 78 W	85	4 51½	4 57⅓	26 32	27 56½	27 31½	27 48½		
♃ —— 8	N 49 W	92	3 57	3 44	27 42	29 40	29 23½	29 30⅓		
♀ —— 9	S 88 W	110	3 50½	3 43⅓	29 32	32 14½	31 44⅓	32 4⅓		
Island Ferdinando de Noronha.				3 56⅓				32 23		
♄ —— 10	N 12 E	99	2 6	1 57	29 10	32 19½	32 20½	32 7⅓		
☉ —— 11	N 16 E	97	0 23½	0 11½	28 50	32 10¼	32 21⅓	31 57⅓		
			North.	North						
☽ —— 12	N 19 E	128	1 50½	1 50⅓	28 8	31 51⅓	31 38⅓	31 37⅓		
♂ —— 13	N 5½ E	93	3 23	3 49½	27 59	31 48	31 35	31 33⅓		
☿ —— 14	N 31 W	46	4 29	4 31	28 23	31 40⅓	31 27⅓	31 25		
♃ —— 15	N 20 E	68	5 33	5 38	27 59	30 59	30 46	30 43		
♀ —— 16	N 27 E	32	6 1½	6 9½	27 44½	30 31½	30 18½	30 15		
♄ —— 17	N 25 W	13	6 21½	6 13	27 48	30 19	30 6	30 2		
☉ —— 18	N 19 W	16	6 28⅓	6 12⅓	27 48½	30 28½	30 15½	30 11		
☽ —— 19	N 11 E	43	6 54⅓	7 8½	27 39	30 31⅓	30 17⅞	30 13⅓	South	
♂ —— 20	N 40½ W	80½	8 9	8 10⅓	28 32	31 17½	31 25½	30 59	South	
☿ —— 21	N 45 W	109½	9 27½	9 28½	29 50½	32 58⅓	32 53⅓	32 39⅓	South	
♃ —— 22	N 39 W	133		11 12	31 15½	34 12⅓	34 7⅓	33 52⅓		
♀ —— 23	N 34 W	122		12 53⅓	32 25	35 27½	35 22½	35 7⅓		
♄ —— 24	N 30 W	103	14 24½	14 37⁹⁄₁₀	33 17½	36 28½	36 23½	36 7⅓	S by L	
☉ —— 25	N 27 W	114½		16 20½	34 11½	37 31⅓	37 26⅓	37 10		
☽ —— 26	N 37½ W	118	17 54½	17 53⅓	35 28	38 46½	38 41⅓	38 24½		
♂ —— 27	N 25 W	103	19 27	19 31⅞	36 16	39 29⅓	39 24⅓	39 7⅓		
☿ —— 28	N 17 W	114		21 20⁹⁄₁₀	36 52	40 6	40 1	39 44		
♃ —— 29	N 11 W	111		23 10⁹⁄₁₀	37 15	40 28	40 23	40 5⅓		
♀ —— 30	N 14 W	120	25 6½	25 9½	37 46½	41 5½	41 0½	40 43⅓		
♄ July 1	N 15 W	118½		27 4⅓	38 21	41 30⅓	40 58	41 7⅓		
☉ —— 2	N 5 W	98		28 42	38 31	41 52½	41 7½	41 29½		
☽ —— 3	N 28 E	88		29 59½	37 44	41 18½	40 15⅓	40 55½	West	
♂ —— 4	N 15 E	82		31 18⅓	37 19	40 30⅞	39 52½	40 27		
☿ —— 5	N 11 E	75		32 31½	37 2	40 31½	39 34⅓	40 7⅓		
♃ —— 6	N 2 E	36½		33 8⅙	37 0½	40 21½	39 12½	39 57½		

1775.	Course.	Distance.	Latitude North By Account	Latitude North By Observation.	Longitude West By Account.	Longitude West By Watch K.	Longitude West By Observation.	Longitude West Corrected.	Ship roll.	Swell sets.
	°	Miles.	° ′	° ′	° ′	° ′	° ′	° ′		
♀ July 7.	N. 3 E.	25		33 32½	36 59	40 8¼	39 20	39 44¾		
♄ —— 8.	N. 11 E.	35	34 8½	34 12	36 51	40 7¼	39 26¼	39 43¼		East.
☉ —— 9.	N. 19 E.	45	34 50¼	35 3	36 32½	40 10¼	39 29¼	39 46¼		
☽ —— 10.	N. 46 E.	68½	35 50½	35 45½	35 33	39 14¾	38 33¼	38 50¾		
♂ —— 11.	N. 63 E.	154		36 55 3/10	32 43	36 21¼	35 40½	35 57¼		
☿ —— 12.	N. 62 E.	165	38 12½	38 12⅛	29 40	33 6½	32 26	32 42⅓		
♃ —— 13.	N. 83 E.	133	38 27	38 29⅓	26 53	30 9¼	29 28½	29 45¼		
	Villa de Horta, Fayal.			38 32⅔				28 32⅔		
☿ —— 19.	N. 59 E.	43	38 54	38 52	24 58½	28 3¼		27 40		
♃ —— 20.	N. 76 E.	100	39 18¼	39 13⅓	22 53½	25 56¼	25 57¼	25 33½		
♀ —— 21.	N. 79½ E.	79	39 26½	39 26⅔	21 13½	24 15	24 35½	23 52¾		South.
♄ —— 22.	N. 81 E.	57	39 35⅓	39 37⅔	19 58½	22 59¾	22 39½	22 38		
☉ —— 23.	N. 51 E.	128	40 58	40 48⅓	17 47½	20 36½	20 11	20 14¼		East.
☽ —— 24.	N. 49 E.	129	42 13½	42 6½	15 38½	18 31	18 5½	18 8½		S. E.
♂ —— 25.	N. 39 E.	124	43 43	43 40½	13 51	16 44¾	16 19¼	16 23¾		
☿ —— 26.	N. 36 E.	143		45 36	11 52	14 22⅞	13 57⅞	14 2⅜		
♃ —— 27.	N. 46 E.	158½	47 16	47 16¼	9 5	11 27⅛	11 1⅞	11 7⅜		
♀ —— 28.	N. 59 E.	114½	48 15¼	48 9½	6 40	8 58	8 32½	8 38⅛		
♄ —— 29.	N. 57½ E.	176	49 43	49 37½	2 55	5 9¼	4 43¾	4 50¼		

*** In the preceding Journal, the course and distance put down in the second and third columns are those made good for the whole day; the variation of the compass, and common quantity of lee-way, under the circumstances the ship then was, being only allowed for; currents, and heave of the sea, as it is usually called, being not taken into the account, except for a few weeks after we left England. These things, I conceived, would be determined with greater certainty, both as to quantity and quality, by comparing the reckoning, kept entirely without them, with those deduced from Observations, and the Watch, or Time-keeper made by Mr. Kendall: Indeed, I did not see how otherwise to make my dead reckoning account of any real use, as my judgment, in making allowance for these things, could not have the least weight even to confirm that of such skilful and experienced navigators as Captain Cook, Mr. Gilbert, and other Officers of the Resolution. It therefore became my business to endeavour at making my labours useful, though in a less degree, by adopting a different plan; and am willing to hope I have done it with some success, especially as I was very careful in observing, as often as possible, both the variation of the compass, and the lee-way which the ship made, from time to time. I have also endeavoured to distinguish between what was effected by a current, and what was the effect of a swell, by mentioning the latter, as often as one was observed, and the point of the compass towards which it set, in a small column on the right hand side of the page.

The fourth and sixth columns contain the latitude and longitude of the ship, deduced from the above-mentioned course and distance, on the noon of the civil day; or that where the nautical day ends, and the astronomical day begins: The latitude, so computed, is only carried on from observation to observation; that is, in general, only from noon to noon, as I always took the

latitude obferved the day before, when I had one, for the latitude departed from; but the longitude is kept on, without any correction whatfoever, from one place to the next where we anchored, and ftopped long enough for me to determine the longitude properly, or where it had been well fettled before by other perfons. The fifth column contains the obferved latitude when there was an obfervation; and when there was not, the latitude determined, in the beft manner I could, by the log and fubfequent obfervations. Thofe latitudes which were actually obferved, may be readily known by turning to the Obfervations, page 223 to page 280.

Columns feven and eight contain the longitudes of the fhip, as fhewn by Mr. Kendall's Watch, and Mr. Arnold's (N°. 3.), until Mr. Arnold's Watch ftopped, after which that column is difcontinued. The laft column but two exhibits the longitude refulting from the laft lunar obfervation, carried on to the time by Mr. Kendall's Watch; except from our leaving England to the 13th of September, 1772, when it was carried on by the log, the difadvantage of which was foon difcovered; and the laft but one contains, what is efteemed to have been, the true longitude of the fhip each day at noon, and alfo the longitudes of all the lands we faw in the voyage, as well as of the more remarkable Capes, Headlands, and Bays in them; the general method of deducing which was as follows:

I reduced all the longitudes refulting from the obfervations of the Moon's diftance from the Sun and fixed Stars made between the times of new and full Moon, to the time of the full Moon, by means of Mr. Kendall's Watch, and took the mean: I reduced, in like manner, all the obferved longitudes taken between the full and change, to the fame time, and took the mean of thefe alfo: the mean of thefe two means were taken for the true longitude of the fhip at that time. In the fame manner were all the longitudes obferved between the full and change, and alfo between the change and next full moon, reduced to the time of the change, and their mean taken for the true longitude of the fhip at that time: and in this manner was the longitude of the fhip afcertained, once a fortnight, generally by a mean of 30 or 40, and fometimes even 50 and 60 obfervations. The longitudes in the intermediate times were deduced from thefe by means of the Watch. In fome inftances, indeed, where I have had fufficient reafons, the longitudes are taken from the Watch itfelf, as in our run from the Cape of Good Hope to the Ifland of St. Helena, although the obfervations would at all times have given the fame longitude within a very few miles, as will readily be feen; and I have alfo paid proper regard to the fituations of places fettled by thofe who have gone before me, where the authorities were fuch as could be depended on.

Laftly, I have to obferve that the length of the log-line was carefully kept, by frequent comparifons, to fuch proportion with the half-minute glafs, as 49¼ feet have to 30 feconds.

Fig. 1.

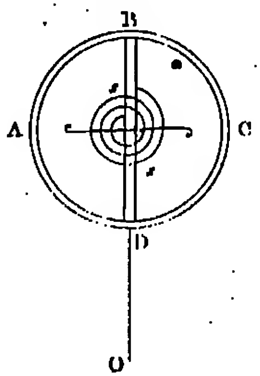


Fig. 2

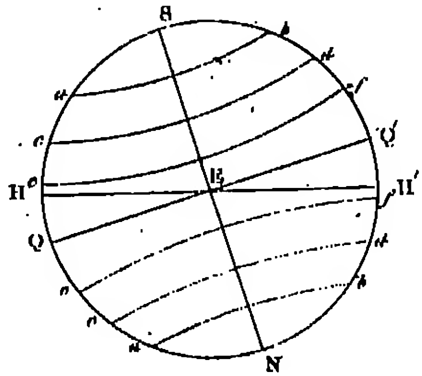
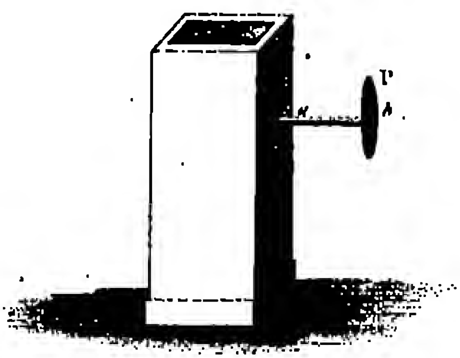
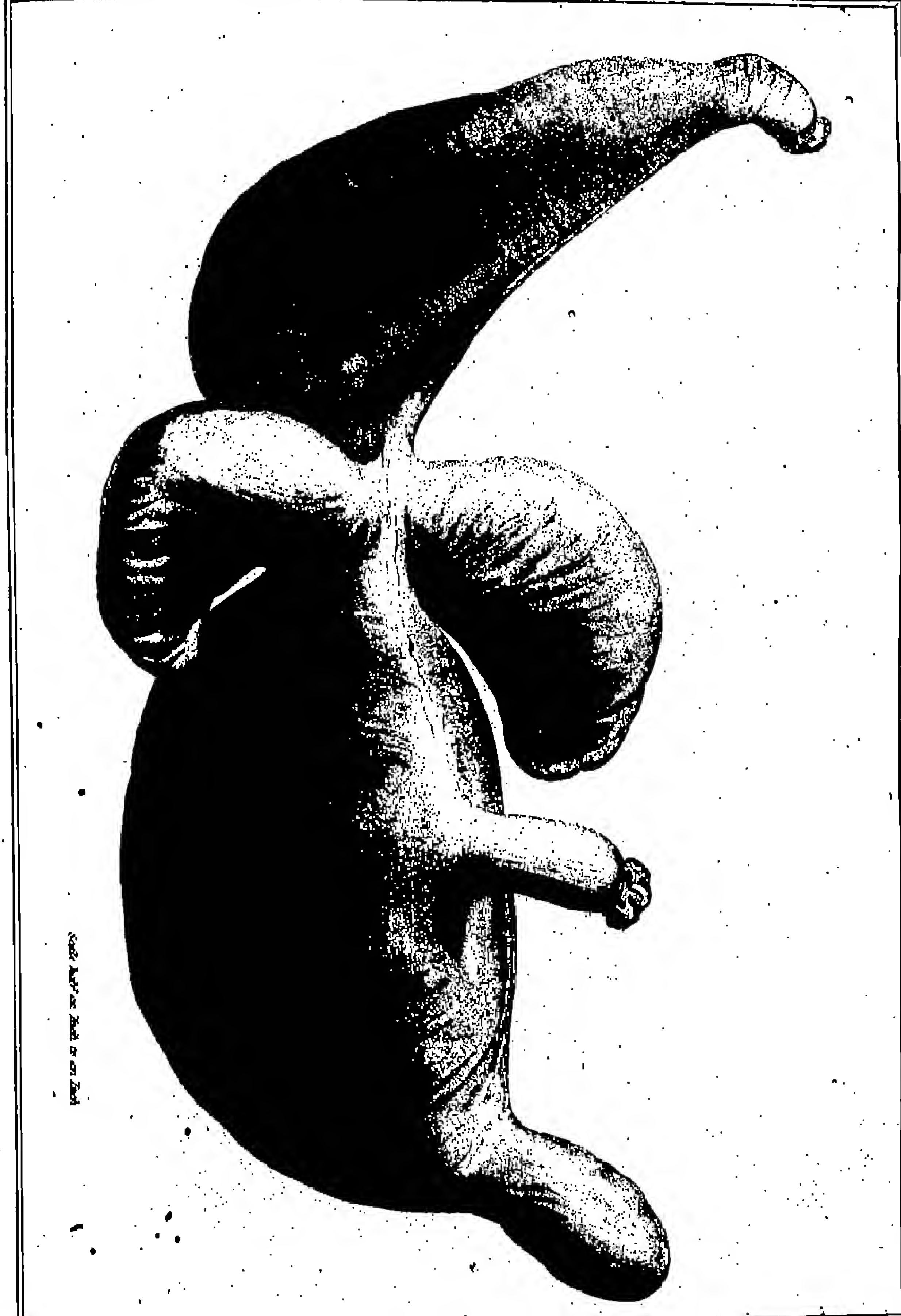
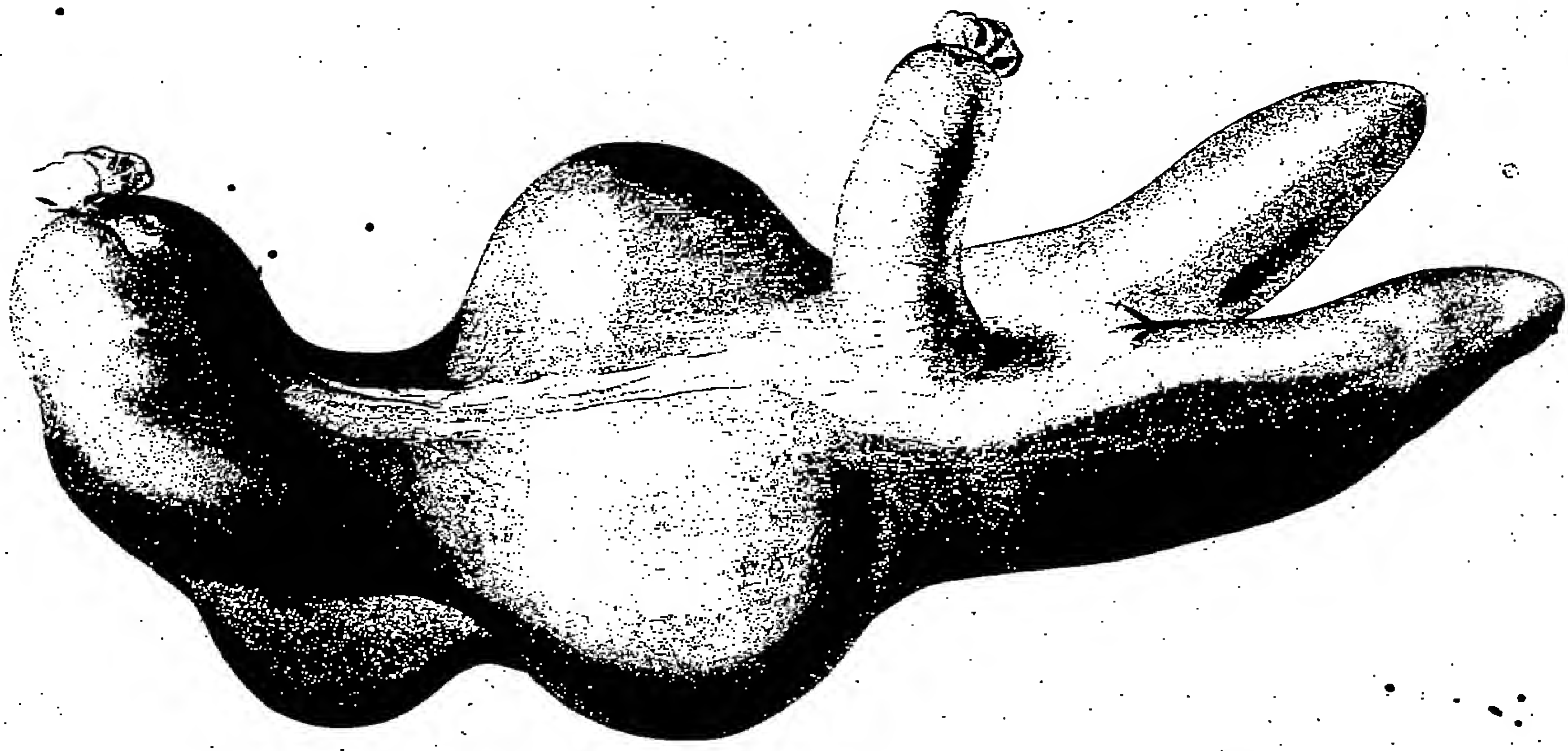


Fig. 3



W. Basire sc.





Natural Size

METEOROLOGICAL OBSERVATIONS,

MADE

On Board His MAJESTY's Sloop RESOLUTION,

In her late Voyage on DISCOVERIES towards the SOUTH.

1772.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. The.	Winds.	Weather, &c.
☉ June 21.					S. W.	Moderate wind, clear, and hot weather.
☽ —— 22.						Almost calm, and very hot.
♂ —— 23.					Easterly.	Light breezes, flying clouds, and very hot.
☿ —— 24.					Southerly.	Brisk wind, and flying clouds.
♃ —— 25.					Variable.	Little winds, and ditto.
♀ —— 26.					Ditto.	Light breezes, and ditto.
♄ —— 27.					Westerly.	Ditto.
☉ —— 28.					Variable.	Little wind, and cloudy weather.
☽ —— 29.					Ditto.	Ditto, and thin clouds.
♂ —— 30.					Northerly.	Light breezes, and hazy weather.
☿ July 1.					Ditto.	Ditto.
♃ —— 2.	56¼				Ditto.	Ditto, and fine weather.
♀ —— 3.						Cloudy, with showers.
☽ —— 13.	61	30,31	6[illegible]½		Westerly.	Moderate wind, and cloudy, with rain at times.
♂ —— 14.	60¼	3 ,29	62	63	Ditto.	Little wind, and foggy weather.
☿ —— 15.	59		64		N. N. E.	Moderate wind, and cloudy weather.
♃ —— 16.	61½	30,18	61¼	63	N. W.	Ditto, and fine weather.
♀ —— 17.	63½		70	70	S. W.	Brisk wind, and hazy.
♄ —— 18.	64		65		N. W.	Squally, with clouds, and rain at times.
☉ —— 19.	63	30,05	64½		N. W.	Brisk wind, and cloudy.
☽ —— 20.	63	29,97	66		Variable.	Ditto, and foggy, with rain.
♂ —— 21.	60	30,08	66		S. W.	Little wind, and hazy weather.
☿ —— 22.			65¼	69	North.	Ditto.
♃ —— 23.			64¼		N. E.	Brisk wind, and flying clouds.
♀ —— 24.	65½		66¼		Ditto.	Ditto.
♄ —— 25.	67¼	30,3	70	73	Ditto.	Ditto, and cloudy.

Tried Dr. Lind's wind gage, (See Philosoph. Transact. vol. lxv. p. 343.) but could not find that the wind had any sensible effect on it. At the time we had as much wind as we could well carry top-gallant sails to.

☉ —— 26.	68¼	30,2	72½	74	N. E.	Moderate wind, and cloudy.
☽ —— 27.	69½		72	71	Variable.	Ditto, and fine weather.
♂ —— 28.	72½	30,1	73½	74	Ditto.	Very little wind, and fine weather.
☿ —— 29.	72	30,18	77½		Ditto.	Little wind, showers, and fine weather.
♃ —— 30.			76		Ditto.	Moderate wind, and hot weather.
♀ —— 31.			72½		Ditto.	Ditto, and showers, with flying clouds.
♄ Aug. 1.			72½		Ditto.	Brisk wind, and flying clouds.
☉ —— 2.			75½		N. E.	Ditto, and cloudy, with showers.
☽ —— 3.	73	30,13	77		Ditto.	Ditto, and cloudy.
♂ —— 4.	72	30,08	75	76½	Variable.	Moderate wind, and very hazy.
☿ —— 5.	75½	30,1	76	77½	East.	Ditto, and foggy.
♃ —— 6.	74	30,1	78	78½	N. E.	Ditto, and cloudy.
♀ —— 7.	74½	30,15	79	79½	East.	Ditto.
♄ —— 8.	73	30,1	79		N. E.	Moderate wind, and hazy.
☉ —— 9.	76	30,08	78		Ditto.	Brisk wind, and cloudy.
☽ —— 10.	75½	30,05	79		Ditto.	Ditto, and hazy weather.
♂ —— 11.	78	30,0	82		N. E. by N.	Moderate wind, and hazy.
☿ —— 13.	80	30,02	80		Ditto.	Ditto, and showers.
♃ —— 14.		30,08	82	83½	N. E.	Ditto, and fine weather.

1772	Morn Therm	Noon B. rom	Noon Therm	Even Therm	Winds	Weather &c.
♀ Aug 14	79	30,12	81		N E	Moderate wind, and fine weather
♄ —— 15	78¼	29 92	80¼		N E by N	Briſk wind with rain
	To day we loſt the N E. trade wind, which veered round by the E to the S E without flattening to a calm as I believe is generally the caſe					
☉ —— 16	80	29 92	81	—	South	Moderate wind, and hazy weather
☽ —— 17	79	29 92	80		S W	Ditto, and cloudy
♂ —— 18	78	30 0	82		Ditto	Little wind, and very hazy
☿ —— 19	80	30,07	81	81	N W	Moderate wind, and cloudy, with ſhowers
♃ —— 20	79	29,97	79¼		S W	Little wind, and exceeding heavy rain
♀ —— 21	76¼	29,9	79	79½	Ditto	Squally, with rain
♄ —— 22	78	30 02	80		Ditto	Briſk wind, and cloudy
☉ —— 23	80	30,0	80	80½	Ditto	Moderate wind, and cloudy
☽ —— 24	78	29,95	79		Ditto	Ditto
♂ —— 25	79¼	30,05	80¼	80½	Ditto	Moderate wind, and hazy
☿ —— 26	78	29 92	76½		Ditto	Ditto, and cloudy, with ſhowers
♃ —— 27	78	29,97	80½		Ditto	Ditto, and hazy
♀ —— 28	77½	30 10	77		Ditto	Ditto, and fine weather
♄ —— 29	77	30,2	78	79½	Ditto	Ditto
☉ —— 30	76	30 02	77		South	Ditto
☽ —— 31	76¼	30,07	78½		Ditto	Ditto
♂ Sept 1	77	30,0	79		Ditto.	Ditto
☿ —— 2	76	29,92	78		Ditto	Ditto, and cloudy
♃ —— 3	75¼	30,05	76		Ditto	Ditto
♀ —— 4.	74	30,05	75		Variable	Ditto, and fine weather
♄ —— 5	73¼	30 04	76		S W	Ditto
	This morning I let down a Thermometer, ſuſpended in the middle of a ſtrong wooden caſe, of ſuch a conſtruction as to let the water paſs freely through it in its deſcent, but which ſhut cloſe the inſtant it began to be drawn up By this means the Thermometer was brought up in a body of water of the ſame heat with that it had been let down to The Thermometer ſtood at 75¼ in the open air, at 74 in the water at the ſurface, and at 66 when drawn up from the depth of 85 fathoms, where it had lain 20 minutes, and we were ſeven and a half drawing it up					
☉ —— 6	74½	30,0	75		South	Moderate wind, and fine weather
☽ —— 7	75	30 07	77		Ditto	Ditto
♂ —— 8	75½	30 1	76		Ditto	Ditto
☿ —— 9	74½	30,1	75		S E	Ditto
♃ —— 10	74½	30 05	75		Ditto	Ditto
♀ —— 11	74	30,12	76		Ditto	Ditto
♄ —— 12	75½	30,1	76½		Ditto	Ditto
☉ —— 13	74	30,1	76		Ditto	Moderate wind, and cloudy
☽ —— 14	75	30,15	76½	77	Ditto	Ditto, and fine weather
♂ —— 15	73	30 02	77		Ditto	Ditto, and cloudy
☿ —— 16	73	30,17	73		Ditto	Ditto
♃ —— 17	72½	30,17	73½		Ditto	Ditto
♀ —— 18	73	30,15	73½		Ditto	Squally, with rain ſometimes
♄ —— 19	70½	30,17	72½		Ditto	Briſk wind, and cloudy, with ſhowers
☉ —— 20	72	30,22	72½		Ditto	Moderate wind, and fine weather

1772.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☽ Sept. 21.	71	30,12	71		S. E.	Moderate wind, and fine weather.
♂ —— 22.			75		Ditto.	Ditto.
☿ —— 23.	70	30,27	73		Ditto.	Squally, with clouds, and rain at times.
♃ —— 24.	70½	30,3	72		Ditto.	Moderate wind, and cloudy.
♀ —— 25.		30,3	70½		Eaſt.	Briſk wind, and cloudy, with ſhowers.
♄ —— 26.	69	30,35	73	73½	Ditto.	Little wind, and fine weather.
	The Thermometer ſtood at 72½ in the open air, at 70 in the water at the ſurface, and at 68 when drawn up from a depth of 80 fathoms, where it had lain 15′; and we had been ſeven minutes drawing it up.					
☉ —— 27.	69½	30,32	74		Eaſt.	Little wind, and fine weather.
☽ —— 28.	69	30,25	72		N. E.	Ditto.
♂ —— 29.	67	30,22	71		North.	Moderate wind, and fine weather.
☿ —— 30.	69½	30,12	71½	67½	Variable.	Briſk wind, and cloudy.
♃ Oct. 1.			71		South.	Moderate wind, and flying clouds.
♀ —— 2.	65½		65½		S. W.	Ditto.
♄ —— 3.	63½	30,3	67½		Ditto.	Briſk wind, and cloudy.
☉ —— 4.	62½	30,15	62		Variable.	Moderate wind, and cloudy.
☽ —— 5.	59	30,41	61		S. E.	Ditto, with drizzling rain.
♂ —— 6.		30,4	61½		Eaſt.	Ditto, and cloudy.
☿ —— 7.	58¼	30,42	60¼		Ditto.	Squally, unſettled weather.
♃ —— 8.	59	30,4	62		Ditto.	Briſk wind, and cloudy, with rain.
♀ —— 9.	59	30,4	61		N. E.	Briſk wind in ſqualls, and very hazy.
♄ —— 10.	59	30,37	62		Ditto.	Moderate wind, and hazy: ſhowers.
☉ —— 11.	59½	30,25	63½		Ditto.	Moderate wind, and fine weather.
	The Thermometer ſtood at 60½ in the open air, at 59 in the water at the ſurface, and at 57 when drawn up from the depth of 100 fathoms; where it had lain 20′, and we had been ſix drawing it up.					
☽ —— 12.		30,35	63		N. E.	Little wind, and fine clear weather.
♂ —— 13.	60	30,27	65½		Ditto.	Moderate wind, and cloudy.
☿ —— 14.	61	30,1	61		North.	Ditto.
♃ —— 15.	58	30,02	62		Ditto.	Moderate wind, and fine weather.
♀ —— 16.	59	30,05	61		Weſt.	Briſk wind, and foggy weather.
♄ —— 17.	57	30,05	59		S. W.	Ditto, and flying clouds.
☉ —— 18.		30,1	60½		Variable.	Moderate wind, and cloudy.
☽ —— 19.	54½	30,17	57	58	Eaſt.	Little wind, and cloudy.
♂ —— 20.		30,35	62½		Ditto.	Ditto, and clear weather.
☿ —— 21.	60½	30,37	63		Ditto.	Ditto.
♃ —— 22.	58	30,2	60	61	N. E.	Little wind, and cloudy, with rain at times.
♀ —— 23.	58	29,95	63		Weſt.	Little wind, and cloudy.
♄ —— 24.	56	30,07	59		South.	Briſk wind, and fine weather.
☉ —— 25.	54	30,17	58		S. E.	Moderate wind, and cloudy.
☽ —— 26.	58	30,07	60		Ditto.	Ditto.
♂ —— 27.	59	29,9	60½		Variable.	Moderate wind, and hazy weather.
☿ —— 28.	64	29,9	67		N. W.	Little wind, and cloudy.
♃ —— 29.		29,81	61¼		North.	Moderate wind, with drizzling rain.
♀ —— 30.	61	29,83	60½		N. W.	Cloudy, with rain at times.
♄ —— 31.					Ditto.	Briſk wind, and cloudy weather.

1772		Morn	Noon		Even	Winds	Weather &c
		Therm	Barom	Therm	Therm		
☉	Nov 1			63		N W	Briſk wind, and cloudy, with ſhowers
☽	—— 2			61¼		N W	Ditto, and moſtly cloudy
♂	—— 3			60¼		N W	Moderate wind, and fair weather
☿	—— 4		30,34	61½		Variable	Ditto, and variable weather
♃	—— 5		30,24	65		Southerly	Ditto
♀	—— 6		30,19	66		Ditto	Moderate wind, and fine weather
♄	—— 7	66½	30,17	71	66	Ditto	Briſk wind, and ſqually weather
☉	—— 8	62	30,14	68	63½	N W	Little wind, and flying clouds
☽	—— 9	62½	30,15	64	63½	N W	Moderate wind, and flying clouds
♂	—— 10	59½	30,3	62½	60	Variable	Little wind, and fine weather
☿	—— 11	59	30,22	64½		N W	Moderate wind and cloudy weather
♃	—— 12	62½	30,24	65	61	N W	Ditto, and fine weather
♀	—— 13	63	30,26	64½	65	N W	Ditto
♄	—— 14	60½	30,33	65½	63½	Variable	Ditto
☉	—— 15	58½	30,19	66		Ditto	Ditto
☽	—— 16					Ditto	Ditto
♂	—— 17			68		N N E	Ditto
☿	—— 18		30 02	71		Variable	Moderate wind, and cloudy
♃	—— 19		29,95	69½		S S E	Briſk wind, and cloudy
♀	—— 20		29,9	71½		N W	Ditto
♄	—— 21		29,97	72		N W	Little wind, and fine weather
☉	—— 22			72	72	N W	Moderate wind, and cloudy
☽	—— 23	62	29,8	65		Variable	Briſk wind, and cloudy, with ſhowers
♂	—— 24	62	30,1	63½		S E	Moderate wind, and clear weather
☿	—— 25	62	30,0	64		S E	Briſk wind, and cloudy
♃	—— 26	66½	29 8	69½		Weſt	Moderate wind, and cloudy
♀	—— 27	53	30,02	52½		Variable	Ditto, and flying clouds
♄	—— 28	54½	29,85	59½		N W	Strong wind in ſqualls, with rain

In the midſt of this heavy gale I tried Dr Lind's Wind gage, and the water in it was depreſſed by the force of the wind $\frac{41}{100}$ of an inch

☉	—— 29	52½	29,6	51		N W b W	Strong wind, and ſqually, with hail and rain
☽	—— 30	52	29,02	55		N W b W	Strong wind in ſqualls and rain

The water in Dr Lind's Wind gage depreſſed $\frac{45}{100}$ of an inch in the ſqualls

♂	Dec 1	62	29,23	51	47	Weſterly	Strong wind, and cloudy, with rain

Dr Lind's Wind gage ſunk $\frac{4}{10}$ of an inch in the ſqualls

☿	—— 2	46	29,3	49½	48	N W	Strong wind, and foggy weather
♃	—— 3	47½	29,22	49		N W	Briſk wind, and flying clouds
♂	—— 4	43½	29,55	44½		N W	Moderate wind, and hazy
♄	—— 5	50½	29,7	48		Variable	Briſk wind, and hazy
☉	—— 6	38½	29 52	38		Variable	Strong wind, and cloudy
☽	—— 7	38½	28,6	42½		N W	Exceeding ſtrong wind, with rain
♂	—— 8	37½	28,92	40	37½	Weſt	Ditto and cloudy, with ſnow and ſleet Penguins
☿	—— 9	35	29 32	36	32	Weſt	Strong wind, and cloudy At ½ paſt 10

in the evening, ſome water which had been ſpilled on the deck was frozen, and in the morning we paſſed the firſt iſland of ice It was not very high, was ſmooth on the top and ſides, and not rugged like thoſe I have ſeen in the North ſeas

♃	—— 10	34	29 32	36½		Variable,	Briſk wind, with ſnow and ſleet
♀	—— 11	32½	29,27	34		N W	Ditto Paſſed another ice iſle.

1772.		Morn. Therm.	Noon. Barom.	Noon. Therm	Even. Therm.	Winds.	Weather, &c.
♄	Dec. 12.	34	28,55	34½		N. W.	Briſk wind, with ſnow and ſleet. Many ice iſlands.
☉	—— 13.	30¾	28,7	32		S. W.	Ditto. Penguins and ice.
☽	—— 14.	31	29,17	33		Northerly.	Went in the boat to try the heat of the ſea-water, and found that a thermometer which ſtood at 32½ in the open air, ſtood at 30 in the water at the ſurface, and at 34 when drawn up from the depth of 100 fathoms, where it had lain 17′, and we were 5½ drawing it up. While we were doing this, ſo thick a fog came on, that it was with the utmoſt difficulty, and after ſome conſiderable time, that we found the ſhips again.——Much ice.
♂	—— 15.	30	28,57	32		N. W.	Little wind, with fog and ſnow. Ice, whales, and peng.
☿	—— 16.	31	28,7	31½		N. W.	Little wind, fog and ſnow. Much ice.
♃	—— 17.	32	29,3	33½		N. W.	Mod. wind, and cloudy, with ſleet. Ice, whales, ſeals, &c.
♀	—— 18.	30¾	29,4	31		N. W.	Briſk wind and thick fog. Many ice iſlands.
♄	—— 19.	31	29,12	31¼	31½	Variable.	Mod. wind, and foggy. Many large ice iſl.
☉	—— 20.	33	29,05	34	33	N. W.	Briſk wind, with ſnow. Some ice iſlands.
☽	—— 21.	32½	29,05	33½	34½	N. W.	Briſk wind, and hazy. Several ice iſlands.
♂	—— 22.	32½	29,2	33		S. W.	Moderate wind, and cloudy. A thermometer which ſtood at 33 in the open air fell to 32 in the water at the ſurface, and ſtood at 34½ when drawn up from the depth of 100 fathoms, where it had been 16′, and we were 6½ drawing it up.—Many ice iſlands.
☿	—— 23.	33	29,65	34		N. W.	Mod. wind, and cloudy, with ſnow. Some ice.
♃	—— 24.	32½	29,4	35		Variable.	Little wind, and cloudy. Ice.
♀	—— 25.	31½	29,05	32¾		South.	Moderate wind, and cloudy. Some ice.
♄	—— 26.	30½	29,15	31½	32	S. W.	Briſk wind, and cloudy. Much ice.
☉	—— 27.	33½	29,45	36		Eaſt.	Little wind, and cloudy. Whales, peng. & ice.
☽	—— 28.	33	29,07	35		Eaſt.	Briſk wind, and cloudy. No ice ſeen.
♂	—— 29.	31¾	29,2	36		Variable.	Mod. wind, with ſnow. Many peng.; ſome ice.
☿	—— 30.	33½	29,07	36½		S. E.	Little wind; ſnow and ſleet. Seals and peng.
♃	—— 31.	31	29,0	31½	31	S. E.	Briſk wind, and cloudy. Pengu. ſeals, &c.
1773.							
♀	Jan. 1.	31	28,95	31½	31	S. W.	Briſk wind, with ſleet. Some ice and peng.
♄	—— 2.	31	29,55	32		Variable.	Briſk wind, and cloudy. Whales, peng. & ice.
☉	—— 3.	31	29,37	31		N. E.	Briſk wind; ſnow and ſleet. The rigging ſo cumbered with ice, that the ſhip was worked with the utmoſt difficulty, and many people were hurt by its falling.
☽	—— 4.	32	29,5	33	33	N. W.	Briſk wind, with ſleet. The rigging ſtill loaded with ice.
♂	—— 5.	33½	29,4	34		N. W.	Briſk wind, and cloudy. One ice iſland only.
☿	—— 6.	33¾	29,17	34½		N. W.	Ditto. Few ice iſlands.
♃	—— 7.	34	29,07	35		N. W.	Briſk wind; ſnow and ſleet. One ice iſland.
♀	—— 8.	33¾	29,12	34¾		N. W.	Mod. wind, and cloudy. Several ice iſlands.
♄	—— 9.	33½	29,22	35		N. W.	Light breezes, and cloudy, with ſnow at times. Took up a great quantity of ice to melt for water. That water melted from the ice uſually found floating in the ſea is freſh and good, is no new diſcovery. The Hudſon's Bay ſhips have long made uſe of it; and I have mentioned it, from my own experience, in the account of a Voyage to Hudſon's Bay. See Phil. Tranſ. vol. lx. for the year 1770.
☉	—— 10.	31½	29,25	34		North.	Mod. wind, and cloudy, with ſnow at times.
☽	—— 11.	34	29,27	35½		Eaſt.	Ditto, and cloudy. Several ice iſlands.

1773	Morn Ther	Noon Barom	Noon Therm	Even Therm	Winds	Weather &c
♂ Jan 12	35	29 20	35		S S W	Moderate wind and cloudy, with ſnow. Took up more ice for water. A thermometer which ſtood at 37 in the open air, ſtood at 33½ in the water, at the ſurface; and at 32 when drawn up from 100 fathoms below it. Whilſt we were waiting for the boats, many large pieces were broke off by the ſea from a very large Ice Iſland which was near us, ſo that it is plain thoſe huge maſſes of Ice can exiſt but for a ſhort time
☿ —— 13	34½	29,3	38		S E	Calm. Cloudy, with ſnow. Some Ice Iſl
♃ —— 14		29,17	35½		S E	Little wind, and cloudy. Some Ice Iſlands
♀ —— 15	35	29 07	42	34½	S E	Little wind, with ſnow at times
♄ —— 16	34	29,05	35	34ᴛ	S E	Briſk wind, and cloudy, with ſleet
☉ —— 17	33½	29 1	34		S E	Briſk wind, and foggy. Tacked from a very large, and apparently firm field of ice, amidſt an amazing number of very large Ice Iſlands
☽ —— 18	32	28,95	34½	33	S E	Briſk wind, with ſleet. Little ice
♂ —— 19	35	29 1	35	34⊥	S E	Briſk wind, and cloudy. Few Ice Iſlands
☿ —— 20	33ᴛ	28,67	33⊥	33⊥	S E	Ditto. Several Ice Iſlands
♃ —— 21	35	28,55	35⊥	35½	S W	Moderate wind, ſnow and ſleet. Several Ice I
♀ —— 22	35ᴛ	28 95	37½		S W	Moderate wind, with ſleet. The two time keepers being put one on each ſide of the great cabbin, I put a thermometer by each, and before a fire was kept in the cabbin, I never ſaw them differ more than half a degree; but ſince there has been a fire, I have conſtantly found that thermometer higheſt which happened to be on the weather ſide, ſometimes by 3; whereas one would naturally have expected it to have been juſt the contrary. Much ice
♄ —— 23	35	29 02	36⊥	35½	S W	Briſk wind. Hail, ſnow and ſleet. Some ice
☉ —— 24	34½	29 27	34⊥	34¾	N E	Briſk wind, and cloudy. Several Ice Iſlands
☽ —— 25		28,85	36½	35	S E	Briſk wind, and foggy. Little ice
♂ —— 26	34	28,27	35	35⊥	S W	Little wind; foggy, with rain. No ice
☿ —— 27	35⊥	28,9	35	36	N W	Little wind, and flying clouds. Some Ice I
♃ —— 28	38	29,42	36⊥	36¾	N W	Briſk wind, with ſleet, ſnow and rain. Several Iſl
♀ —— 29	37	29,65	38	37⊥	North	Strong wind, with rain, and very thick fog
♄ —— 30	38⊥	29,57	39⊥	40	N W	Strong wind, with thick fog, and rain
☉ —— 31	38	29 55	38½	39	N W	Strong wind, and cloudy. Some ice
☽ Feb 1	40⊥	29,93	41⊥	40	N W	Briſk wind, and cloudy. Penguins and dive
♂ —— 2	43	29 92	45⊥	46½	North	Briſk wind, and foggy, with rain at times
☿ —— 3	43⊥	29,8	46	46	N W	Moderate wind, and hazy. Sea weed &c div
♃ —— 4	42⊥	29,65	45	43¾	N W	Moderate wind, and cloudy
♀ —— 5	40	29,6	41	41	N W	Ditto
♄ —— 6	43	29 47	43½	44½	N W	Briſk wind, and drizzling rain
☉ —— 7	44	29 7	44	45	N E	Briſk wind, and cloudy
☽ —— 8	40	29,25	43½		N E	Briſk wind and thick fog. Rain at times. Penguins
♂ —— 9	43⊥	28 85	45		N W	Strong wind, and foggy, with rain. Peng
☿ —— 10	40	29,45	41⊥	41	N W	Strong wind, and cloudy
♃ —— 11	40	29,17	40		N W	Briſk wind, with rain. Many penguins
♀ —— 12		29,55	38	38	S W	Briſk wind, and clear weather. Many peng
♄ —— 13	35	29,6	36	38¾	Weſt.	Ditto. Many penguins
☉ —— 14	35⊥	29,37	35⊥	36	S W	Moderate wind, ſnow and ſleet. Saw a ſeal
☽ —— 15	35	29,4	36⊥	36½	S W	Briſk wind, and cloudy. Several ſeals
♂ —— 16	35	29 5	34		Eaſt	Little wind with ſnow. Mr Pickerſgill ſaw ſouth light

1773.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☿ Feb. 17.	33½	29,02	35		S. S. W.	Moderate wind, and cloudy, with ſnow. About one o'clock in the morning Mr. Clerke, who had the watch, told me that the ſame appearance which Mr. Pickerſgill had ſeen the night before was very bright. I got up, and found it to be the very ſame phenomenon which we call the Northern Lights in England. The natural ſtate of the heavens, except in the S. E. quarter, and for about 10° of altitude all round the horizon, was a whitiſh haze, through which ſtars of the third magnitude were juſt diſcernable. All round, the horizon was covered with thick clouds, out of which aroſe many ſtreams of a pale reddiſh light, that aſcended towards the zenith. Theſe ſtreams had not that motion which they are ſometimes ſeen to have in England; but were perfectly ſteady, except a ſmall tremulous motion which ſome of them had near their edges. Took up ice for water.
♃ —— 18.	32	29,12	33	33	S. W.	Moderate wind, and cloudy. Several Ice Iſl.
♀ —— 19.	33½	29,2	35	33½	S. W.	Briſk wind, and ſqually, with ſnow at times. Many large Ice Iſlands. In the night the ſouthern lights were very bright at times, and the colours much more various and vivid than they were on Wedneſday night, their motion alſo was greater, ſo that on the whole they were extremely beautiful.
♄ —— 20.	32½	29,3	35		W. S. W.	Moderate wind, and hazy. Many large Ice Iſlands, and a ſtrong appearance of land to the weſtward, which proved only a fog-bank. At nine o'clock in the evening the ſouthern lights ſprung up very bright about the eaſt point of the horizon, in a ſingle ſteady pillar, of a pale reddiſh light. Its direction was not directly towards the zenith, but gradually deflected towards the ſouth, and grew fainter as it aſcended, ſo as to vaniſh about S. E. and at 45° of altitude.
☉ —— 21.	34½	29,42	36½		N. E.	Little wind, with ſnow. Many Ice Iſlands.
☽ —— 22.	45½	28,82	34		S. E.	Ditto.
♂ —— 23.	34	28,72	35	33½	S. E.	Strong wind, with ſnow, and ſo thick a fog, at times, that we could ſcarcely ſee a ſhip's length, and at the ſame time were ſurrounded with a prodigious number of very large iſlands of ice. In the morning I ſaw one burſt, in an inſtant, into three large, and a great many ſmall pieces. It made no report, or at leaſt ſo ſmall a one that we could not hear it for the noiſe of the ſea, and the whiſtling of the wind in the rigging.
☿ —— 24.	34	28,55	35	35	Variable.	Strong wind, with ſleet. Many large Ice Iſl.
♃ —— 25.	35	29,0	36½	36¼	N. E.	Little wind, and cloudy, with ſnow. Several Ice Iſlands.
♀ —— 26.	35	29,1	36½	33	South.	Little wind, and cloudy. Saw the South. lights.
♄ —— 27.	34	28,42	34½		S. W.	Strong wind, with ſleet. Whales and ice.
☉ —— 28.	35½	29,0	36½		Variable.	Strong wind, and foggy. Porpoiſes and ice.
☽ March 1.	35	28,35	35½	36½	N. E.	Briſk wind, with ſnow. Several Ice Iſlands.
♂ —— 2.	37	28,55	38		S. W.	Little wind, thick fog, and rain.
☿ —— 3.	36	29,05	38		Variable.	Little wind, and foggy. Several penguins.
♃ —— 4.	35½	28,82	36		N. W.	Briſk wind, with ſnow and rain.
♀ —— 5.	36	28,87	37½		S. E.	Moderate wind, and foggy, with rain. Many iſlands of ice. One in particular, which we paſſed in the afternoon, was near a mile and half long, and very high: It was calm moſt part of the night, ſo that we found ourſelves very near it in the morning, but obſerved that ſeveral very large pieces had broke off from it. Many great reports, like thunder, were heard in the night, which I conceive were occaſioned by theſe pieces breaking off.

1773	Morn Therm	Noon Barom	Noon Therm	Even Therm	Winds	Weather &c.
♀ March 5						An almost universal dissolution began, about this time, to take place among these vast and, to us, tremendous bodies of frigid matter One huge Ice Island
♄ —— 6	36½	28,95	37	37	Variable	Moderate wind and cloudy Saw the southern lights
☉ —— 7	35¼	28,57	34½		South	Little wind, with sleet Saw the South lights
☽ —— 8	35¼	28 92	40		S. E	Little wind and cloudy
♂ —— 9	36½	28,62	37	35	S W	Strong wind, and squally, with rain and sleet
☿ —— 10	33	29,0	35		Variable	Brisk wind and cloudy Saw sea weed
♃ —— 11	35	29,15	37		East	Moderate wind, with snow and sleet
♀ —— 12	37½	28,97	39½	37	S E	Moderate wind, with drizzling rain
♄ —— 13	35	28,7	36	35	Variable	Moderate wind Snow and rain
☉ —— 14	31½	28,87	33		S W	Brisk wind Snow and rain
☽ —— 15	31¼	28,85	34		Westerly	Moderate wind and cloudy The southern lights very bright at times, and exceeding beautiful Their colours being vivid, and their motion quick and curious
♂ —— 16	33¼	29,12	35½	36	S S W	Brisk wind, and squally, with snow
☿ —— 17	34	29,45	35		N W	Brisk wind, and cloudy
♃ —— 18	39	29,82	41½		West	Brisk wind, with rain at times A little after nine o clock in the evening it was very clear and the southern lights were exceeding bright and beautiful, and appeared of a semi circular, or rainbow like form, whose two extremities were nearly in the east and west points of the horizon This bow, when it first made its appearance passed a considerable way to the north of the zenith; but rose by degrees, turning, as it were, on its diameter, and passing through the zenith settled at length, towards the southern horizon These lights were at one time so bright, that we could discern our shadows on the deck
♀ —— 19	41½	29,82	43		N W	Brisk wind and cloudy Sea weed, peng. and porpoises
♄ —— 20	45½	29,75	45		West	Strong wind, and hazy
☉ —— 21	45½	29,95	46		N W	Brisk wind, and cloudy; saw seals & sea weed
☽ —— 22	45½	29,85	47		S E	Brisk wind with showers
♂ —— 23	47	30,17	49	49	Ditto	Brisk, and cloudy
☿ —— 24	50	29,95	52¾	54½	Ditto	Mod wind & foggy with rain Saw sea weed shel &c
♃ —— 25	52	29,85	54	52½	Variable	Brisk wind and squally with rain
♀ —— 26	52	30,15	53½		S W	Moderate wind, and fine weather
♄ —— 27	50	30,28	55		Westerly	Ditto with showers
☉ —— 28	55	30,38	56½		N W	Ditto, and much rain
☽ —— 29		30,41	60		N W	Ditto, with frequent showers
♂ —— 30		30,36	61		North	Strong wind and heavy rain
☿ —— 31		30,14	62½		North	Moderate wind with heavy showers
♃ April 1		30,03	61		N W	Ditto, and fine weather
♀ —— 2		29,75	56¼		N W	Ditto, and showers
♄ —— 3		29,71	58		N N W	Brisk wind, with drizzling rain
☉ —— 4		29,65	58		N N W	Moderate wind, with some heavy showers
☽ —— 5	48½	29,98	54		Variable	Brisk wind, with heavy showers
♂ —— 6	46½	30,24	60½	58½	Ditto,	Moderate wind, with much rain
☿ —— 7	49	30,39	52		Ditto	Ditto, with constant heavy rain
♃ —— 8	48	30,22	50½		Ditto	Ditto, and rain without intermission
♀ —— 9	51	30,04	52		Westerly	Ditto
♄ —— 10	50	29,92	51½		N W	Ditto

1773.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
⊙ April 11.	48	30,13	54	53	Variable.	Little wind, with frequent showers.
☽ —— 12.	47½	30,20	50		Westerly.	
♂ —— 13.	50¼	30,18	58		Ditto.	
☿ —— 14.	52¼	29,82	53		Ditto.	Little wind, and almost continued heavy rain.
♃ —— 15.	50½	29,99	53		Ditto.	
♀ —— 16.	51	30,04	58	54¾	Ditto.	
♄ —— 17.	55	29,90	56	56	Ditto.	
⊙ —— 18.	53½	29,95	58¾	57½	Easterly.	Little wind, and fine weather.
☽ —— 19.	50½	29,85	57½		Ditto.	Ditto.
♂ —— 20.	50	29,77	57¾	56	Ditto.	Ditto.
☿ —— 21.	46½	29,68	55	56	Ditto.	Ditto.
♃ —— 22.		29,67	53	45	Ditto.	Moderate wind, and heavy showers.
♀ —— 23.		29,76	52½		Westerly.	Gentle breezes, with some showers.
♄ —— 24.		29,82	53½		Ditto.	
⊙ —— 25.		29,95	33¾		Ditto.	Little wind, and fine clear weather.
☽ —— 26.		29,88	51½		N. E.	Moderate wind, with much rain.
♂ —— 27.		30,02	50		N. W.	Ditto, with heavy showers.
☿ —— 28.		30,25	47		Westerly.	Light breezes, and cloudy, with showers.
♃ —— 29.		30,24	48¾		Ditto.	Ditto.
♀ —— 30.		30,38			N. E.	Ditto.
♄ May 1.		30,39	50½		Variable.	Ditto, with drizzling rain.
⊙ —— 2.		30,42	51			Calm, with showers.
☽ —— 3.		30,23	48			Calm, with continued heavy rain.
♂ —— 4.		29,98	51½		Variable.	Gentle breezes, with frequent showers.
☿ —— 5.		29,96	46		S. W.	Ditto, with smart showers of rain.
♃ —— 6.		30,42	51		N. W.	Moderate wind, with showers.
♀ —— 7.		30,23	50¾		N. W.	Strong wind, thunder, lightning, hail & rain.
♄ —— 8.		30,02	49½		Variable.	Brisk wind, and flying clouds, with showers.

I had frequently to-day, an opportunity of viewing a very curious phænomenon; namely, the descent of the snow on the tops of the prodigiously high, and almost perpendicular hills which every where surrounded us. The atmosphere, in general, was pretty clear, except some very thick whitish clouds, which were continually flying over us. When these came near any hill, they began to extend themselves towards it, and were drawn out into a sort of conical form, the vertex of which was towards the hill. By degrees, the cloud gathered round the top of the hill, and entirely covered it; from which time the cloud grew visibly less dense, and in a little time was totally dispersed; when it appeared that all the part of the hill which had been immersed in the cloud was covered with snow.

1773.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
⊙ —— 9.		30,35	49		N. E.	Brisk wind, and flying clouds.
☽ —— 10.		30,01	53		N. E.	Ditto, with showers of hail and rain.
♂ —— 11.		30,27	44½		S. W.	Moderate wind, and flying clouds.
☿ —— 12.	46	30,32	49		N. W.	Ditto, with showers.
♃ —— 13.	53	30,3	55		S. W.	Brisk wind, and cloudy.
♀ —— 14.	50	30,47	58		S. E.	Little wind, and hazy weather.
♄ —— 15.	53	30,3	56		N. E.	Ditto.
⊙ —— 16.	56	29,75	59		Westerly.	Brisk wind, in squalls, with rain.

1773	Morn Therm	Noon Barom	Noon Therm	Even Therm	Winds	Weather &c
☽ May 17	51½	29,65			Southerly	Moderate wind, and flying clouds

This afternoon we had an opportunity of obſerving, in as complete a manner as could be wiſhed, one of the moſt curious, and perhaps the moſt extraordinary and powerful, of Nature's productions.

The forenoon had been in general pretty clear, but ſubject to heavy ſqualls of wind, and ſome flying clouds, which were very black and heavy, and moved with great velocity from the S. W. towards the N. E. (the direction of the wind). About four o'clock in the afternoon it became calm, and the heavens were almoſt covered with very black clouds, particularly towards the W. and N. W. and preſently after we ſaw ſeveral tail-like appearances, depending from the clouds in that quarter. Theſe appearances were whiter than the clouds they hung from, which made them very conſpicuous; and they increaſed gradually, in length, until they extended, as near as I could judge, about one ſixth part of the diſtance between the cloud and the ſurface of the ſea. About this time, the water under them began to be violently agitated, and lifted up with a whirling motion towards the impending part of the cloud, which, on account of a motion they all had the contrary way to that the wind had blown, was not directly over it, but a little towards the S. W. As the water roſe, the end of the cloud deſcended, and in a little time they joined; after which the water appeared to me to aſcend out of the ſea, into the cloud, with great velocity. I think that none of theſe ſpouts, as they are uſually called, continued entire more than ten minutes; perhaps not quite ſo long. I ſaw four complete at one time; but there were great numbers which began to form, and were diſperſed, by what cauſe I know not, before the cloud and water joined. One of them came, I was told, within 30 or 40 yards of the ſhip, which lay becalmed; but I was then below looking at the Barometer: when I got upon deck, it was about 100 fathoms from her. It is impoſſible to ſay what would have been the conſequences if it had gone over her; but I believe they would have been very dreadful. At the time when this happened, the Barometer ſtood at 29,75 inches, and the Thermometer at 56.

The whole of this paſſed within the ſpace of an hour, or thereabouts; for at five o'clock a ſmall breeze of wind ſprung up in the S. E. quarter, and diſperſed every appearance of this kind, although the black clouds remained until about ten, when the wind veered round to the W. S. W. and ſettled there in a moderate ſteady gale, and the weather cleared up. The annexed plate, N° 4, was engraved from a drawing of Mr. Hodges, taken at the time; in which he has exhibited the appearance of one of them in three ſeveral ſtates, and alſo the appearance of that which approached ſo near to the ſhip.

1773	Morn Therm	Noon Barom	Noon Therm	Even Therm	Winds	Weather &c
♂ —— 18		29,57	49		S. W.	Little wind, and fine weather
☿ —— 19		29,69	55		Ditto	Ditto
♃ —— 20		29 98			Northerly	Moderate wind, and cloudy
♀ —— 21		30,11	57		Variable	Ditto, and moſtly cloudy
♄ —— 22		30,11	56½		Northerly	Ditto, and cloudy
☉ —— 23	55	30,16	55½		S. W.	Little wind, and fine weather
☽ —— 24	60	30,35	53	56	Weſterly	Briſk wind, and fine weather
♂ —— 25		30,15	56		S. W.	Ditto, and cloudy weather
☿ —— 26		29 69	57½		Ditto	Ditto
♃ —— 27		29,68	58		Ditto	Ditto
♀ —— 28		29,66	58		Ditto	Ditto

1773.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
♄ May 29.		29,77	56¼		S. W.	Briſk wind, and cloudy weather.
☉ —— 30.	54	29,81	57¼	57¼	Weſterly.	Moderate wind, and fine weather.
☽ —— 31.		30,02	51½		S. W.	
♂ June 1.		30,28	50¼		W. S. W.	Ditto, and moſtly cloudy, with ſhowers.
☿ —— 2.		30,20	49		S. W.	
♃ —— 3.	48	30,20	51½	54¼	Ditto.	Ditto, and fine weather.
♀ —— 4.		30,4	51¼		Southerly.	Ditto, and cloudy.
♄ —— 5.		30,41	49½		S. S. E.	Strong wind, with rain.
☉ —— 6.		30,3	51½		Ditto.	Ditto.
☽ —— 7.		30,15	55		North.	Moderate wind, and fine weather.
♂ —— 8.	51½	29,90	52	52	Ditto.	Ditto.
☿ —— 9.	53¼	29,82	55		Ditto.	Ditto.
♃ —— 10.	52½	29,7	54		Ditto.	Ditto.
♀ —— 11.	51½	29,77	51½		Ditto.	Moderate wind, and cloudy, with rain.
♄ —— 12.	49½	29,67	51½		Variable.	Moderate wind, with rain.
☉ —— 13.	50	30,0	51½		S. E.	Moderate wind, and cloudy; rain at times.
☽ —— 14.	49¼	29,65	49		S. W.	Moderate wind, with drizzling rain.
♂ —— 15.	46	29,7	48¼	48	Eaſt.	Ditto.
☿ —— 16.	48½	29,75	49		S. E.	Briſk wind, with rain.
♃ —— 17.	49½	29,75	49¼		Ditto.	Briſk wind, and cloudy; rain at times.
♀ —— 18.	49¼	29,8	48	47½	Ditto.	Briſk wind, and cloudy weather.
♄ —— 19.	47	30,12	48		South.	Moderate wind, and cloudy.
☉ —— 20.	48	30,15	48⅓		S. W.	Ditto.
☽ —— 21.	48	30,27	50¼		Ditto.	Ditto.
♂ —— 22.	50½	30,35	52¼		N. W.	Ditto.
☿ —— 23.	49¼	30,27	50¼		Eaſt.	Ditto.
♃ —— 24.	51¼	29,47	51½		Ditto.	Strong wind, with rain.
♀ —— 25.	54	29,22			N. E.	Briſk wind, with rain.
♄ —— 26.	54	29,27	55¼		Eaſt.	Ditto, and cloudy.
☉ —— 27.	52½	29,12	53¼		S. W.	Little wind, and foggy.
☽ —— 28.	52	29,4	52¼	50½	Variable.	Ditto.
♂ —— 29.	51	29,4	52¼	51½	Ditto.	Moderate wind, and cloudy.
☿ —— 30.	49¼	29,65	51¼		South.	Ditto.
♃ July 1.	48	29,75	49	49¼	Ditto.	Moderate wind, and flying clouds.
♀ —— 2.	45	29,8	47		N. W.	Ditto, and fine weather.
♄ —— 3.	48	29,62	49¼	49	N. E.	Ditto, with ſhowers.
☉ —— 4.	49¼	29,75	48¼	49	S. E.	Ditto, and fine weather.
☽ —— 5.	48	29,85	48	49½	Ditto.	Briſk wind, with rain.
♂ —— 6.	50¼	29,67	51		Ditto.	Ditto, and cloudy.
☿ —— 7.	51	29,17	52½		Weſt.	Moderate wind, and fine weather.
♃ —— 8.	51½	25,45	51½	51¼	S. W.	Ditto, with ſhowers.
♀ —— 9.	49	29,85	50¼	51	N. W.	Ditto, and cloudy.
♄ —— 10.	52½	29,82	51		South.	Briſk wind, and cloudy: rain at times.
☉ —— 11.	45	30,3	47	47½	S. W.	Moderate wind, and fine weather.
☽ —— 12.	47	30,27	49	49	Weſt.	Ditto.
♂ —— 13.	47½	30,27	49¼	49	Variable.	Little wind, and fine weather.
☿ —— 14.	48	30,1	50		N. E.	Moderate wind, and cloudy.
♃ —— 15.	49½	29,65	52		South.	Moderate wind, rain, and thick fog.

1773		Morn Therm	Noon Barom	Noon Therm	Even Therm	Winds	Weather &c
♀	July 16	46	29,5	46	46½	South	Brisk wind, and cloudy with rain at times
♄	—— 17	44	29,8	44¾	45	Ditto	Ditto, with showers of hail and rain
☉	—— 18	47½	30,2	49¾	49	S W	Moderate wind, and fine weather
☽	—— 19	51¾	30,32	54	58¾	South.	Ditto
♂	—— 20	52½	30,15	58¾		East	Moderate wind, and cloudy
☿	—— 21	56¾	29,62	59½	61	Ditto	Brisk wind, and foggy
♃	—— 22	61	29,62	63	62½	West	Moderate wind, and fine weather rain at times
♀	—— 23	61½	29,85	63½		N W	Ditto, and cloudy, with rain
♄	—— 24	65	29,85	64½		Ditto	Strong wind in squalls with rain
☉	—— 25	66	29,82	65½	62	Ditto	Strong wind, and heavy rain
☽	—— 26	66	29,90	66½	67	Ditto	Moderate wind, and fine weather
♂	—— 27	67½	30,07	67½	69	Variable	Ditto, and hazy
☿	—— 28	66	30,05	69	68	N W	Little wind, and fine clear weather
♃	—— 29	68	29,97	69½	70	Ditto	Moderate wind, and hazy weather
♀	—— 30	68¾	29,92	71		Ditto	Ditto and cloudy, with rain
♄	—— 31		29,92	68	68	Ditto	Little wind and flying clouds
☉	Aug 1	68	29,77	68½		S W	Brisk wind, and squally, with showers
☽	—— 2	68	29,87	69¾	70¾	West.	Gentle breezes, and fine weather
♂	—— 3	69¾	30,05	71¾	72¾	N W	Ditto
☿	—— 4	72	30,05	74		Ditto	Moderate wind, and fine weather
♃	—— 5	76½	30,02	76½	77½	Ditto	Brisk wind, and fine weather
♀	—— 6	77	30,1	78		Variable	Little wind, and cloudy, with rain at times

After many wishes, and long expectation we this day got the S E Trade wind Its manner of coming on was rather remarkable About 10 o clock in the morning, a thick haze began to rise in the Eastern quarter, which by noon was become so thick, and had spread so far, that it was with difficulty we got the sun s meridian altitude; but the N W wind, which we had had for about a fortnight, during which time the weather was generally very fine and pleasant, still continued to blow In the afternoon we had some pretty brisk showers, with which the N W wind died away, and it was calm till eight o'clock in the evening, when a brisk, steady gale sprung up at S E, and proved permanent.

1773		Morn Therm	Noon Barom	Noon Therm	Even Therm	Winds	Weather &c
♄	—— 7	73	30,12	75		S E	Brisk wind, and cloudy
☉	—— 8	72¾	30,2	75		Ditto	Ditto, and fine weather
☽	—— 9	73	30,22	76½		Ditto	Ditto, with rain at times
♂	—— 10	74¾	30,2	78½	77½	East	Ditto, and cloudy
☿	—— 11	75	30,07	78½		Ditto.	Moderate wind, and fine weather
♃	—— 12	76¾	30,07	78½	79	Ditto.	Ditto
♀	—— 13	76¾	30,1	79½	79	Ditto	Ditto
♄	—— 14	78	30,12	79	79	Ditto	Ditto
☉	—— 15	77	30 1	80	80	Ditto	Ditto
☽	—— 16	79	30,07	80¾		Ditto	Light winds and mostly fine weather
♂	—— 17	75	30,02	81½		S E	Ditto, very hot
☿	—— 18	73¼	30,03	81	80	Variable	Ditto
♃	—— 19	73½	30,12	80	80	Ditto	Ditto
♀	—— 20	77½	30,1	79½	79¾	S E	Ditto
♄	—— 21	84½	30,05	82		Ditto	Ditto
☉	—— 22		30,02	81	80¾	N W	Strong wind, and cloudy weather
☽	—— 23	76½	30,05	78		Calm	Very clear, and extremely hot

1773.		Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
♂	Aug. 24.	75½	30,02	75½		Variable.	Little wind, and cloudy, with ſhowers.
☿	—— 25.	74½	30,05	78		Ditto.	Ditto, and flying clouds.
♃	—— 26.		30,13			Variable.	Fine weather, and very hot.
♀	—— 27.	69½		84½		Eaſterly.	Ditto.
♄	—— 28.		30,21	82	78	Ditto.	Ditto.
☉	—— 29.	75	30,2	90		Ditto.	Ditto.
☽	—— 30.	77½	30,2	91	83½	Ditto.	Ditto.
♂	—— 31.	79	30,16	93	89	Ditto.	Ditto.
☿	Sept. 1.		30,0			Variable.	Briſk wind, with flying clouds.
♃	—— 2.	76	29,95	77		Eaſterly.	Ditto.
♀	—— 3.	75	30,1	76½	77½	Ditto.	Moderate wind, and flying clouds.
♄	—— 4.		30,08	77	78	Ditto.	Ditto, and pleaſant weather.
☉	—— 5.		30,08	77½	78½	Ditto.	Ditto.
☽	—— 6.		30,09	79		Ditto.	Ditto.
♂	—— 7.	77½	30,12	79½		Ditto.	Ditto.
☿	—— 8.	79	30,7	85		S. E.	Briſk wind, and very hot.
♃	—— 9.	77½	30,06	81	81½	Ditto.	} Moderate wind, with ſhowers.
♀	—— 10.		30,05	80½		Ditto.	
♄	—— 11.	75	30,06	79½		Ditto.	Ditto, and fine weather.
☉	—— 12.	74½	30,13	77	77½	Ditto.	Little wind, and hot ſultry weather.
☽	—— 13.	74½	30,12	77	76	Ditto.	Briſk wind, and fine pleaſant weather.
♂	—— 14.	74	30,13	76½		Ditto.	Strong wind, with ſhowers.
☿	—— 15.		30,07	77	75½	Ditto.	Ditto.
♃	—— 16.	77½	30,04	77½		Ditto.	Ditto.
♀	—— 17.	72½	29,95	78½	77½	Eaſt.	Briſk wind, and pleaſant weather.
♄	—— 18.	77	30,07	79	79½	Ditto.	Moderate wind, and flying clouds.
☉	—— 19.	77	30,02	79½	79½	Ditto.	Ditto.
☽	—— 20.		29,97	81½		Ditto.	Mod. wind & cloudy; rain, thunder, & lightn.
♂	—— 21.	78½	30,0	81	80½	Variable.	Ditto, thunder, &c.
☿	—— 22.	74½	29,97	77½	76½	S. E.	Briſk wind, and cloudy, with rain.
♃	—— 23.	69½	30,05	73		Ditto.	Moderate wind, and cloudy.
♀	—— 24.	72½	30,05	74	74½	Ditto.	Briſk wind, and ſqually, with rain.
♄	—— 25.	72½	30,02	73½	73½	Ditto.	Ditto, and ſqually.
☉	—— 26.	71½	30,05	73	71	Ditto.	Ditto, and drizzling rain.
☽	—— 27.	71½	30,07	71	70	Ditto.	Ditto, and cloudy.
♂	—— 28.	71	30,07	72½		Eaſt.	Moderate wind, and fine weather.
☿	—— 29.	71½	30,07	72½	72½	Ditto.	Ditto.
♃	—— 30.	70	30,12	70	70	S. E.	Briſk wind, and fine weather.
♀	Oct. 1.	67	30,1	70	69	Ditto.	Ditto.
♄	—— 2.	67	30,12	71½	74	Ditto.	Ditto.
☉	—— 3.	70½	30,1	71½	69	Ditto.	Ditto.
☽	—— 4.	69	30,12	71½	72	Ditto.	Ditto.
♂	—— 5.	68	30,12	74½		Ditto.	Ditto.
☿	—— 6.	71½	30,05	75½	73½	Ditto.	Ditto.
♃	—— 7.	72½	30,05	73	74½	Ditto.	Moderate wind, and flying clouds.
♀	—— 8.	73½	29,95	76½	75	S. W.	Ditto.
♄	—— 9.	68½	30,30	73½		S. E.	Moderate wind, and cloudy.
☉	—— 10.	70	30,07	69½	70	Ditto.	Briſk wind, and ditto.

1773	Morn Therm	Noon Barom	Noon Therm	Even Therm	Winds	Weather &c
☽ Oct 11	69	30,25	69½	69¼	S E.	Brisk wind, and cloudy
♂ —— 12	69¼	30,2	70¼	70¼	Ditto	Ditto
☿ —— 13	66¼	30,2	70		Ditto	Ditto
♃ —— 14	66¼	30,25	66¼		East	Moderate wind, and cloudy
♀ —— 15	65	30,32	68¼	70	Ditto	Brisk wind, and cloudy at times
♄ —— 16	65	30,27	68	67	N E	Moderate wind and clear weather
☉ —— 17	63½	30,26	69	66	Ditto	Little wind, and fine weather
☽ —— 18	64	30,2	60		Ditto	Brisk wind, and ditto
♂ —— 19	64½	30,02	66¼		Variable	Ditto, and mostly cloudy showers
☿ —— 20	61½	29,72	60½	61½	West	Ditto, and flying clouds
♃ —— 21	59½	29,7	62	63½	N W	Ditto
♀ —— 22	58	29,17	59½	60¼	S W	Brisk wind, and cloudy
♄ —— 23	51½	29,6	53¼	58	West	Strong wind, and cloudy, with rain
☉ —— 24	57¼	29,37	60¼	62	N W	Strong wind, and cloudy The water in Dr Lind's Wind gage was depressed 8 10ths of an inch at times We were now under bare poles
☽ —— 25	58	29,15	59¼		S W	Strong wind, and cloudy weather
♂ —— 26	54½	29,52	54	53	Variable	Brisk wind, and cloudy
☿ —— 27	52½	29,57	58	56	N W	Very strong wind and cloudy
♃ —— 28	56	29,12	58	56¼	Westerly	Ditto, lightning
♀ —— 29	51½	29,62	52½	53	N W	Ditto
♄ —— 30	54	29,4	58½		Ditto	Ditto
☉ —— 31	55½	29 22	57		Variable	Ditto
☽ Nov 1	54½	29,22	50¼		Ditto	Brisk wind, with rain and thick fog
♂ —— 2	52	29,45	51½		S E	Strong wind, and cloudy, with showers
☿ —— 3	51½	29,85	58¼	58½	Variable	Little wind, and fine weather
♃ —— 4	54	29,82	62½		Ditto	Moderate wind, with showers
♀ —— 5		29,67			Ditto	Brisk wind, with rain, and very cold
♄ —— 6	52	30,06	61	55½	Ditto	Moderate wind, and cloudy weather
☉ —— 7		30,2	67		Northerly	Brisk wind, and fine weather, mostly
☽ —— 8	52	29,98	56		Southerly	Cloudy, with rain, and cold raw weather
♂ —— 9	50	30,2	59	56¼	Ditto	Wind moderate, and weather warmer
☿ —— 10	60	29 8	52½	61	Variable	Mostly cloudy, with showers
♃ —— 11		30,08	51½		Ditto	Much rain and cold disagreeable weather
♀ —— 12	61	30,51	67¼	61	Ditto	Moderate wind, and cloudy
♄ —— 13	56½	30,40	69¼	64	Southerly	Ditto, and fine weather
☉ —— 14	56½	30,33	70	65½	Ditto	
☽ —— 15	61	30 17	67	61½	Ditto	
♂ —— 16	61	30,09	69¼	70¼	Ditto	
☿ —— 17		29 99	76		Northerly	Brisk winds with rain
♃ —— 18	70½	29,7	73¼	71¼	N W	Strong wind with ditto
♀ —— 19	65	29,5	64		Ditto	Brisk wind, with ditto
♄ —— 20	51¼	29 7	62	47¼	S W	Moderate wind and mostly cloudy showers
☉ —— 21		29,95	60		N W	Ditto, with heavy rain at times
☽ —— 22		30,2	61		Ditto	Wind moderate, and fine pleasant weather
♂ —— 23		30,29	61		Ditto	Moderate wind, and ditto
☿ —— 24		30,29	66		Variable	Ditto, and flying clouds showers
♃ —— 25		30 31	61½		N W	Brisk wind, and fine weather
♀ —— 27	61	30 17	63½		North	Moderate wind and cloudy

1773.		Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
♄	Nov. 27.	63½	29,97	62	61	Varible.	Brisk wind, and flying clouds.
☉	—— 28.	54	30,2	56		North.	Little wind, and hazy. Rain at times.
☽	—— 29.		30,1	55	54½	S. W.	Mod. wind, and cloudy. Sticks & sea-weed.
♂	—— 30.	48	29,97	49	49	Ditto.	Brisk wind, and cloudy.
☿	Dec. 1.	48	30,0	49½		Ditto.	Ditto, with fog.
♃	—— 2.		29,92	46½		Ditto.	Mod. wind, and foggy. Peng. and sea-weed.
♀	—— 3.	44	29,6	47		N. W.	Ditto. Penguins and seals.
♄	—— 4.	46¼	29,8	47½		S. E.	Little wind, with fog and rain. Penguins.
☉	—— 5.	45	29,75	46½	46½	Easterly.	Little wind, and fine weather Seals.
☽	—— 6.	47¼	29,55	49		North.	Mod. wind, and foggy. Seals and sea-weed.
♂	—— 7.	48	28,95	49	48¼	N. W.	Brisk wind and foggy, with rain. Drift-wood.
☿	—— 8.	50	29,45	43½	43	N. W.	Strong wind, and foggy.
♃	—— 9.	44¼	29,72	44½	43½	S. W.	Ditto, with rain.
♀	—— 10.	36⅓	29,45	36½	35½	Westerly.	Ditto, with sleet.
♄	—— 11.	38½	29,07	39¼	39½	S. W.	Brisk wind, with rain and snow. Saw an ice isl.
☉	—— 12.	31¼	29,07	32¼	35	Ditto.	Brisk wind, and squally. Snow and hail.
☽	—— 13.	30	28,92	32		West.	Brisk wind, and foggy. Much snow and ice.
♂	—— 14.	31¼	29,07	34¼	35	Ditto.	Ditto. Much ice.
☿	—— 15.	43	28,87	31		Ditto.	Brisk wind, with snow. Many ice isles.
♃	—— 16.	29½	29,42	33		N. E.	Mod. wind, and cloudy: snow. Took up ice for water.
♀	—— 17.	31¼	29,07	33¼	33	North.	Mod. wind, and foggy: snow at times. Ice.
♄	—— 18.	33	29,0	33		Ditto.	Ditto, and thick fog. Several ice islands.
☉	—— 19.	33	28,8	34		Ditto.	Ditto, and foggy. Much ice.
☽	—— 20.	33	29,2	33		N. E.	Ditto, and cloudy. Much loose ice.
♂	—— 21.	33	28,7	34		Ditto.	Brisk wind, thick fog, and sleet. Many* ice isl.
☿	—— 22.	31¼	28,95	33		North.	Ditto, and foggy. Many ice islands.
♃	—— 23.	31¼	29,22	35	29½	Ditto.	Mod. wind, and foggy. Abundance of ice.
♀	—— 24.	31½	28,62	32	33	N. W.	Ditto. Many islands of ice.
♄	—— 25.	33	29,2	34		Ditto.	Little wind, and cloudy. 96 ice isles seen at one time.
☉	—— 26.	35	29,17	37	35	Ditto.	Ditto. 200 ice isles seen at one time.
☽	—— 27.	36	29,0	35	34	N. E.	Ditto. Much ice: Took some up for water.
♂	—— 28.	32	28,65	33¼		S. E.	Brisk wind, with snow. Some ice islands.
☿	—— 29.	33½	28,62	33	34½	Southerly.	Mod. wind, much snow, and many ice isl.
♃	—— 30.	32	28,77	34¼	37	S. W.	Little wind, and cloudy. Few ice islands.
♀	—— 31.	33	29,05	35½	35	Variable.	Little wind, and cloudy, with sleet at times.

*** To-day, while we were observing the meridian altitude of the sun, a shower of snow came from the west, and passed a-head of the ship; during which, a large island of ice, considerably within the visible horizon, and directly under the sun, was entirely hid by it; yet the horizon appeared as distinct, and much the same as it usually does in dark hazy weather. When the shower was over, I found that it required the sun to be dipped something more than his whole diameter to bring his lower limb to the nearest edge of the ice island, which must have been farther off than the visible horizon, during the shower; and yet this would have been taken as the real horizon, without any suspicion, if it had been every where equally obscured. Hence may be inferred the uncertainty of altitudes taken in foggy, or what seamen, in general, call hazy weather.

1774			Morn. Therm.	Noon Barom.	Noon Therm.	Even. Therm.	Winds	Weather.
♄	Jan.	1	34	28,87	36½	37½	S W	Moderate wind, and cloudy, with snow
☉	——		34½	29,05	38½		S E	Ditto
☽	——	3	36½	29,12	36	39	N W	Brisk wind, with snow and sleet
♂	——	4	44½	29,27	46½		Ditto	Ditto, and foggy, with rain
☿	——	5	47	29,22	46½		Ditto	Strong wind, and cloudy. Rain at times
♃	——	6	46	29,22	47	50	Ditto	Brisk wind, and cloudy. [illegible]
♀	——	7	47½	29,25	50	50½	Ditto	Brisk wind, and flying clouds
♄	——	8	47½	29,47	49½	50	West	Ditto
☉	——	9	49	29,7	51¾		Ditto	Ditto. Many birds
☽	——	10	49	29,52	52¼		Ditto	Mod. wind, and flying clouds. Many birds
♂	——	11	43½	29,47	50	50	N W	Brisk wind, and squally, with showers
☿	——	12	53	29,71	56	55	Ditto	Ditto, and flying clouds
♃	——	13	5[illegible]	29,45	53¼		Ditto	Ditto, and foggy. Sea weed
♀	——	14	51	29,41	51½	54¼	Ditto	Ditto, and foggy
♄	——	15	49½	29,27	51		Ditto	Strong wind, and foggy, with rain
☉	——	16	48	29,77	47½	49	West	Brisk wind, and hazy
☽	——	17	43¾	29,67	41¼	41	Ditto	Ditto, with rain and sleet
♂	——	18	40¾	28,9	40	41¼	Variable	Ditto, and foggy, with rain at times
☿	——	19	39	28,6	39¼		Ditto	Ditto, with rain. Sea weed
♃	——	20	47¾	28,52	40	38	S E	Ditto, and cloudy. Saw two ice islands
♀	——	21	36	28,57	37	38	Ditto	Ditto, and cloudy, with sleet at times
♄	——	22	36	28,7	37¼		S W	Mod. wind, snow and rain. Several ice islands
☉	——	23	37	28,57	38¼		S W	Ditto, and cloudy. Sleet, and some ice islands
☽	——	24	40½	28,57	39		N W	Brisk wind, and cloudy. One ice island
♂	——	25	39	28,82	42½	39½	Ditto	Moderate wind, and foggy. Sleet
☿	——	26		29,05	40	36	N E	Little wind, and cloudy. Several ice islands
♃	——	27	37	28,72	37¼		Ditto	Mod. wind, and thick fog. Some ice islands
♀	——	28	35¾	28,85	36	33¼	North	Ditto. Much loose ice
♄	——	29	34¾	28,7	36¼	33¼	Easterly	Mod. wind & cloudy, with snow sometimes
☉	——	30	31¼	28,8	32	32½	E N E	Ditto, and foggy, with snow

⁂ This morning we diſcovered a prodigious large field of ice right a-head, extending eaſt and weſt farther than could be ſeen from off the main-top-gallant-yard. At a diſtance, the whole appeared very high, and like one ſolid fixed maſs, with many exceeding high, mountainous parts in it; but when we came nearer, we found its edge, which before appeared upright, and of one ſolid piece, ſcarce higher than the water, and compoſed of many ſmall pieces cloſe joined together, with ſome pretty large ice iſlands amongſt it. Farther in it yet appeared high and mountainous; but probably this alſo was a deception, cauſed by the very great refractive power of the atmoſphere, near the horizon, in thoſe frigid regions; many inſtances of which I had occaſion to mention in the account of my Voyage to, and reſidence in, Hudſon's Bay. Let me add here once for all, that I have had abundant proofs of the effects of theſe extraordinary refractions on altitudes of the ſun, &c. taken from the horizon of the ſea with Hadley's Quadrant this voyage. For, univerſally, I believe, without a ſingle exception, the eaſt longitude ſhewn by the Watch K. in the morning, fell ſhort of that deduced from it in the afternoon, when both were reduced to the ſame time by the Log, and that ſometimes by 10, 1[illegible], and even

1774.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.

15 minutes of longitude: I mean when we were in high latitudes; for, between the tropics, I ſeldom knew them differ more than 3 minutes, and not often ſo much as that.

1774.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☽ Jan. 31.	33	28,9	34	32½	N. E.	Mod. wind, and foggy. One ice iſland.
♂ Feb. 1.	35	28,85	35		Ditto.	Ditto, and cloudy. Several ice iſlands.
☿ —— 2.	35	28,75	37	33½	S. E.	Ditto. One ice iſland.
♃ —— 3.	32¾	28,9	35	34¼	Ditto.	Little wind, and cloudy.
♀ —— 4.	34	29,0	34½	34½	N. E.	Ditto, and moſtly cloudy.
♄ —— 5.	37½	28,72	38¼	38¼	North.	Moderate wind, and cloudy, with ſnow.
☉ —— 6.	36	28,72	39¼		S. W.	Ditto, and cloudy: ſnow and hail.
☽ —— 7.	37	28,65	40	38	Ditto.	Ditto, and cloudy. Saw divers.
♂ —— 8.	39	29,62	41½		Ditto.	Briſk wind, and cloudy, with ſnow and rain.
☿ —— 9.	46½	29,12	47		Ditto.	Briſk wind, with rain.
♃ —— 10.	44	29,17	47	47	Ditto.	Strong wind, with clouds and rain.
♀ —— 11.	49	29,45	51	49¼	Weſterly.	Very ſtrong wind, and cloudy. The wa-

ter ſunk in Dr. Lind's Wind-gage $\frac{9}{10}$ of an inch, during the ſqualls, which was the moſt I ever ſaw.

1774.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
♄ —— 12.	47½	29,22	47¼	49	Weſterly.	Moderate wind, and fine weather.
☉ —— 13.	49¼	30,0	52	51½	Ditto.	Ditto, and flying clouds.
☽ —— 14.	52	30,17	53	51½	Variable.	Ditto, and drizzling rain.
♂ —— 15.	51	30,07	54		N. W. by W.	Ditto, and foggy, with drizzling rain.

It may not be improper to remark, that in all our long trip to the ſouthward this year, we never once ſaw the ſouthern lights: indeed I do not recollect a ſingle night that was clear enough.

1774.	Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☿ —— 16.	55	30,0	56		N. W.	Briſk wind, and foggy, with rain.
♃ —— 17.	53	29,92	55		Ditto.	Moderate wind, and cloudy.
♀ —— 18.	52	29,92	50½		S. W.	Strong wind in ſqualls, with rain.
♄ —— 19.	55	30,37	58½	59	Weſt.	Moderate wind, and cloudy.
☉ —— 20.	61	30,42	66	66	Ditto.	Ditto, and fine weather.
☽ —— 21.		30,42	67½		S. W.	Ditto.
♂ —— 22.	68½	30,47	69		S. E.	Briſk wind, with ſhowers.
☿ —— 23.	64¼	30,45	69	66½	North.	Moderate wind, and flying clouds.
♃ —— 24.	71	30,27	71		N. W.	Ditto.
♀ —— 25.	70	29,95	69	68½	S. W.	Moderate wind, and cloudy, with rain.
♄ —— 26.	65½	30,02	65	64¼	South.	Briſk wind, and cloudy.
☉ —— 27.	64½	30,2	68½	68	Eaſterly.	Moderate wind, and moſtly cloudy.
☽ —— 28.	66¼	30,22	71½		Variable.	Ditto.
♂ March 1.		30,2	71¼	73½	Weſt.	Little wind, and fine weather.
☿ —— 2.		30,17	74	74	N. W.	Ditto.
♃ —— 3.	71	30,22	74	75	N. W.	Ditto.
♀ —— 4.	74	30,3	74½	76	Ditto.	Ditto.
♄ —— 5.		30,3	75		Variable.	Ditto.
☉ —— 6.		30,3	74	73½	Eaſt.	Mod. wind, with ſhowers. Saw many pieces of ſponge.
☽ —— 7.		30,3	74½	74	Ditto.	Ditto, and flying clouds. Sponge & ſea-weed.
♂ —— 8.	73¼	30,35	75¼		Ditto.	Ditto. Birds, ſponge, ſea-weed, &c.
☿ —— 9.	74½	30,37	77	76½	Ditto.	Ditto. Sea-ſnakes, ſponge, leaves, & birds.
♃ —— 10.	73½	30,32	76¼	76	Ditto.	Ditto. Many birds, ſea-weed, &c.
♀ —— 11.	75	30,3	75	75¼	N. E.	Ditto. Saw Eaſter Iſland.

1774		Morn Therm	Noon Barom	Noon Therm	Even Therm	Winds	Weather
♄	March 12	75	30 27	75¼	75½	Variable	Little wind, and flying clouds
☉	—— 13	75¼	30 4	74	74¼	S E	Moderate wind, and flying clouds
☽	—— 14	7 ½	30 27	74½	74½	E S E	Ditto
♂	—— 15		30 37	73		Easterly	Little wind and very hot weather
☿	—— 16	71	30,22	75	76½	N E	Ditto, and flying clouds
♃	—— 17	75½	30 3	77	76½	Ditto	Moderate wind, and fine weather
♀	—— 18	75¾	30 ,2	76½		Ditto	Ditto
♄	—— 19	74¾	30 25	77	76½	East	Ditto
☉	—— 20	75¾	30 2	77		Ditto	Brisk wind and mostly cloudy
☽	—— 21	75½	30,25	77		Ditto	Moderate wind and flying clouds
♂	—— 22	74½	30,2	76½	75½	Ditto	Ditto, with showers
☿	—— 23	75½	30,1	77½	75½	N E	Ditto, with flying clouds
♃	—— 24	74	30,1	77	77	East	Ditto
♀	—— 25	76½	30,17	78	76½	Ditto	Ditto
♄	—— 26	78	30,1	78½	78½	Ditto	Ditto
☉	—— 27	78½	30,02	80	79	Ditto	Ditto
☽	—— 28	78½	30,05	80	80	Ditto	Ditto
♂	—— 29	79¼	29,97	81	80¼	Ditto	Ditto
☿	—— 30	79	30,02	80¾	80	Ditto	Ditto
♃	—— 31	80	30,0	80½	80½	Ditto	Ditto
♀	April 1	80¾	29,97	81	81	Ditto	Ditto
♄	—— 2	79½	29,95	81¾	81	Ditto	Ditto
☉	—— 3	80¼	30,02	82	81¾	Ditto	Ditto
☽	—— 4	81¾	30,0	82¼	82½	Ditto	Ditto
♂	—— 5	81¾	30,0	83	82¾	Ditto	Ditto
☿	—— 6	81¾	29 97	83½	82½	Ditto	Ditto, with showers
♃	—— 7	77½	30,0	81½	81½	East	Ditto, with heavy showers
♀	—— 8	82	29,97	82½	82½	Ditto	Brisk wind, in squalls, with showers
♄	—— 9	82	29,85	84½	84½	Ditto	Strong gusts of wind, with showers
☉	—— 10	81	29,87	84½	84½	Ditto	Squally, with showers
☽	—— 11	81¾	29,85	85½	85½	E. S E	Ditto
♂	—— 12	84½	30,02	84½	81½	S E	Brisk wind, with showers.
☿	—— 13	79	29,97	82¼	82½	Ditto.	Moderate wind and mostly cloudy
♃	—— 14	81½	29,90	82½	83	East	Brisk wind, and flying clouds
♀	—— 15	82½	30,02	83	82½	Ditto	Brisk winds, and flying clouds
♄	—— 16	82	30,02	83½	83¼	Ditto	Ditto
☉	—— 17	81½	30,0	83¼		Ditto	Moderate wind, and flying clouds
☽	—— 18	81½	30,07	82¼		Ditto	Ditto
♂	—— 19	81½	30,1	82¼	82	Ditto	Ditto
☿	—— 20	79	30,07	81	79½	Ditto	Ditto, and cloudy, with rain
♃	—— 21	81½	30,1	82½		Variable	Ditto, and cloudy
♀	—— 22		30,03	81½		Ditto	Ditto, and flying clouds
♄	—— 23	88½	30,11	88¾	82½	Ditto	Moderate wind, and flying clouds, with showers
☉	—— 24	80	30 09	90		Ditto	
☽	—— 25		30 02	78		Ditto	
♂	—— 26	80¾	30,03	84½	84½	Ditto	
☿	—— 27	80	30,18	92	84	Ditto	
♃	—— 28		30 10	83		Ditto	

1774.			Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
♀	April	29.	83¼	30,05	88¼	87	East.	Moderate wind, and fine weather.
♄	——	30.	81	30,02	88¼	86¼	Ditto.	Ditto.
☉	May	1.	83¾	30,04	90½	90½	E. N. E.	Ditto.
☽	——	2.		30,11	89½		S. W.	Squally, with heavy showers of rain.
♂	——	3.	82½	30,03	90	85½	Ditto.	Ditto.
☿	——	4.	81	30,03	93	86¼	Ditto.	Moderate wind, and fine weather.
♃	——	5.		30,02	94¾	72¼	East.	Ditto.
♀	——	6.	83	30,02	97	72½	Ditto.	Ditto.
♄	——	7.	80	30,02	91½	79¼	Ditto.	Ditto.
☉	——	8.	81	30,09	93½	93	Ditto.	Ditto.
☽	——	9.	82½	30,03	91	84	Ditto.	Ditto.
♂	——	10.		30,03	84	77½	Ditto.	Ditto.
☿	——	11.					Variable.	Rainy, unsettled weather.
♃	——	12.		30,09	80½		N. E.	Ditto, with thunder and lightning.
♀	——	13.		30,12	81		East.	Moderate wind, and fine weather.
♄	——	14.		30,08	82½		E. by N.	Ditto.
☉	——	15.		30,15	84½	83	S. E.	Ditto.
☽	——	16.	79½	30,2	84¼	81	E. S. E.	Ditto.
♂	——	17.	79	30,15	83	83	E. by S.	Ditto.
☿	——	18.	79	30,12	82¼	81	East.	Little wind, and frequent showers.
♃	——	19.	77	30,07	80½	80¼	Ditto.	Moderate wind, and fine weather.
♀	——	20.	79	30,09	82½	80¼	Ditto.	Ditto.
♄	——	21.	79	30,11	84	81¼	Ditto.	Ditto.
☉	——	22.	79½	30,12	83¾		Ditto.	Ditto.
☽	——	23.	78½	30,05	83½		Ditto.	Moderate wind, with showers.
♂	——	24.	79¾	29,92	83		Variable.	Ditto, and flying clouds.
☿	——	25.	79¾	29,92	78		S. E.	Ditto, and cloudy, with rain.
♃	——	26.	77½	29,45	81½		E. S. E.	Ditto.
♀	——	27.	75½	30,08	79½	80½	East.	Brisk wind, and mostly cloudy.
♄	——	28.	76½	30,11	80¾	80½	Ditto.	Moderate wind, and fine weather.
☉	——	29.	75½	30,03	82	81¼	Ditto.	Ditto.
☽	——	30.	75	30,02	78½	82¼	Ditto.	Ditto.
♂	——	31.	79½	29,98	80	81¼	Ditto.	Ditto.
☿	June	1.	77½	29,98	81	81¼	Ditto.	Ditto.
♃	——	2.	77	29,96	79½	81	Ditto.	Ditto.
♀	——	3.	77¾	29,95	79	81¼	Ditto.	Ditto.
♄	——	4	81	30,0	81½	81¼	Ditto.	Ditto.
☉	——	5	79½	29,97	82½	83	Ditto.	Ditto, and cloudy.
☽	——	6	81½	30,0	82½		N. E.	Ditto.
♂	——	7.	79¾	29,85	81½	80	Variable.	Ditto, with rain, thunder, and lightning.
☿	——	8.	78	29,97	80¼	82	N. E.	Little wind, and cloudy.
♃	——	9.	79	29,87	81	81	Variable.	Moderate wind, and mostly cloudy.
♀	——	10.	76	29,95	77¾	77½	S. E.	Squally, with rain, and much lightning.
♄	——	11.	77	30,05	77½	77	Ditto.	Moderate wind, and cloudy, with showers.
☉	——	12	74	30,1	75		Ditto.	Brisk wind, with drizzling rain.
☽	——	13.	75		80	77¼	Variable.	Moderate wind, and cloudy.
♂	——	14.	75¼	30,0	75½	76¼	Ditto.	Little wind, and flying clouds.
☿	——	15.	75¼	30,1	75¼	75½	South.	Ditto.

1774		Morn	Noon		Even	Winds	Weather &c
		Therm	Barom	Therm	Therm		
♃	June 16	74½	30,1	75½	74½	South	Moderate wind, and fine weather
♀	—— 17	73½	30,12	75	73	S E	Ditto.
♄	—— 18	73½	30,12	76½		Ditto	Ditto
☉	—— 19	74	30,05	77	75	East	Ditto.
☽	—— 20	75½	30,1	77½	76½	Ditto	Ditto.
♂	—— 21	76	30,05	78	79	Ditto.	Ditto.
☿	—— 22	76	30,07	77½	76	Ditto	Ditto
♃	—— 23	76½	30,07	77½	76½	Ditto	Ditto
♀	—— 24	76½	30,07	79	78½	N E	Ditto
♄	—— 25	78	30,12	77½		Variable.	Little wind, and hazy
☉	—— 26	76	30,1	75	78	Ditto	Ditto, and fine weather
☽	—— 27	74½	30,12	74½	74½	Ditto	Ditto.
♂	—— 28				74½	Ditto	Ditto
☿	—— 29	74½	30,05	74½	76½	West	Ditto
♃	—— 30	74½	30,12	75½	72½	S E	Moderate wind, and cloudy weather
♀	July 1	73	30,17	75	73½	Ditto	Ditto
♄	—— 2	72	30,15	72	72½	Ditto	Ditto, and fine weather
☉	—— 3	71	30 15	74	72½	Ditto	Ditto
☽	—— 4	74½	30 12	75½	76½	Ditto	Ditto, and cloudy
♂	—— 5	75	30 07	7[illegible]		Ditto	Ditto
☿	—— 6	74½	30,15	76½	76½	East	Ditto.
♃	—— 7	75	30,1	77	77½	Ditto	Ditto
♀	—— 8	75½	30,1	78		North	Ditto
♄	—— 9	77	29,9	78		South	Little wind, with heavy showers of rain
☉	—— 10	73½	29 92	74½	74	S E	Brisk wind, in squalls, with rain
☽	—— 11	73	29,9	74	75	Ditto	Brisk wind, and cloudy
♂	—— 12	74½	29,95	76	75½	Ditto	Ditto
☿	—— 13	75½	29 97	76	76½	Ditto	Moderate wind, and fine weather
♃	—— 14	76	30,02	78	77½	East	Ditto
♀	—— 15	76½	30,02	75½	78½	S E	Ditto
♄	—— 16	78½	30,02	79½		Ditto	Brisk wind, in squalls, with rain
☉	—— 17	78	30,05	76½		Ditto	Heavy squalls of wind and rain
☽	—— 18	75½	30,05	76½	76½	Ditto	Strong wind, and showers
♂	—— 19	75	30,02	76½	76½	Ditto	Ditto
☿	—— 20		30,12	75	74½	Ditto	Moderate wind, and cloudy
♃	—— 21	74½	30,02	77½	74	S E	Ditto, and flying clouds
♀	—— 22	74½	30,02	76½	76	Variable	Little wind and flying clouds
♄	—— 23	76	29,97	80	7[illegible]½	N E.	Moderate wind, and cloudy weather
☉	—— 24	76	30,0	79½		Variable	Ditto
☽	—— 25	77½	30,0	80½	79	Ditto	Little wind, and fine weather
♂	—— 26	78½	30,0	78½	81	S W	Ditto
☿	—— 27	74	30 0	74½	74½	Ditto	Ditto.
♃	—— 28	70½	30 02	71½	75	Ditto	Ditto
♀	—— 29	70½	30,02	74	72½	S. E	Ditto,
♄	—— 30	70½	30,05	72½	76½	Ditto	Ditto
☉	—— 31	73½	30,1	81	74½	Ditto	Ditto.
☽	Aug 1	73	30,12	73½	76½	Variable	Ditto
♂	—— 2	73½	30,1	78½	78	South.	Ditto

1774.			Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☿	Aug.	3.	73	30,1	74	74¼	East.	Little wind, and fine weather.
♃	——	4.	70¼	30,02	78	77½	West.	Ditto.
♀	——	5.	73½	29,89	78		S. E.	Moderate wind, and mostly cloudy.
♄	——	6.	70¼	29,93	74½		Ditto.	Moderate wind, and flying clouds.
☉	——	7.	71½		78¾	78¼	Ditto.	Ditto.
☽	——	8.	68½	30,14	73½		Ditto.	Moderate wind, and mostly cloudy.
♂	——	9.	71½	30,13	73½		East.	Moderate wind, and cloudy weather.
☿	——	10.	70½	30,17	74		N. E.	Ditto.
♃	——	11.	71	30,08	77	75¼	N. N. W.	Moderate wind, with showers.
♀	——	12.	72½	30,08	83¼	80¾	E. S. E.	Moderate wind, and cloudy weather.
♄	——	13.	73½	30,19	75		N. E.	Little wind, and close, cloudy weather.
☉	——	14.	72	30,11	76		N. N. W.	Moderate wind, and mostly cloudy.
☽	——	15.	75¼	30,08	80	81½	Ditto.	Little wind, and cloudy.
♂	——	16.	76	29,97	79½		E. N. E.	Little wind, and flying clouds.
☿	——	17.	78¾	30,12	79½	79¾	East.	Ditto, and cloudy weather.
♃	——	18.	73	30,10	78		E. by N.	Moderate wind, and cloudy weather.
♀	——	19.	77	30,02	79½	78	Westerly.	Little wind, with showers.
♄	——	20.	72¾	30,1	73		S. E.	Brisk wind, and cloudy.
☉	——	21.	70¼	30,15	73½	72	Ditto.	Moderate wind, and mostly cloudy.
☽	——	22.	70¾	30,17	75½	74.	East.	Ditto.
♂	——	23	72¼	30,15	73¾		S. E.	Brisk wind, and cloudy.
☿	——	24	78½	30,1	81	80¼	Ditto.	Moderate wind, and cloudy.
♃	——	25.	79½	30,1	81½	81	Ditto.	Ditto.
♀	——	26.	76¼	29,95	80¾		Ditto.	Little wind, and fine weather.
♄	——	27.	74½	30,02		79¾	East.	Ditto.
☉	——	28.	78½	30,0	78½	82¼	Variable.	Ditto.
☽	——	29.	78	30,1	80		S. E.	Ditto.
♂	——	30.	76½	30,1	79	78	Ditto.	Moderate wind, and fine weather.
☿	——	31.	76	30,1	77	79.	Ditto.	Ditto.
♃	Sept.	1.	74	30,12	75		East.	Ditto.
♀	——	2.	74½	30,15	76½	76	Ditto.	Moderate wind, and cloudy.
♄	——	3.	73	30,1	73½	74	Ditto.	Moderate wind, and cloudy; rain at times.
☉	——	4.	73	30,15	74	74½	S. E.	Little wind, and cloudy.
☽	——	5.		30,12.	74	75½	E. by N.	Ditto.
♂	——	6.	70¼				E. S. E.	Little wind, with flying clouds.
☿	——	7.	72½	30,05	75		S. E.	Brisk wind, with flying clouds.
♃	——	8.	72¼	30,06	72¾		E. N. E.	Ditto.
♀	——	9.	74¾	30,11.	74½	71½	Ditto.	Strong wind, and cloudy, with rain at times.
♄	——	10.	71	30,08	75	75.	East.	
☉	——	11	70¼	30,16	76¼	73	Ditto.	
☽	——	12.	72¼	30,14	76½	73½	Ditto.	Brisk wind, and cloudy weather.
♂	——	13.	72	30,1	77		Ditto.	Moderate wind, and fine weather.
☿	——	14.	74¾	30,07	76½	79	Ditto.	Moderate wind, and cloudy weather.
♃	——	15.	74	29,92	80	83	N. E.	Little wind, and fine weather.
♀	——	16.	76	30,02	77¼	80½	Variable.	Little wind, and hazy weather.
♄	——	17.	75	30,06	77¼	76¼	East.	Little wind, and fine weather.
☉	——	18.	75½	30,15	79		Ditto.	Little wind, and cloudy; rain at times.
☽	——	19.	72	30,15	73½		Ditto.	Ditto.

1774.	Morn	Noon		Even	Winds.	Weather &c.
	Therm	Barom	Therm	Therm		
♂ Sept 20	73	30,12	73¾	73	East	Moderate wind, and fine weather
☿ —— 21	71	30,15	73¼	73¼	Variable	Ditto
♃ —— 22	71¼	30,12	73½	72½	Ditto	Ditto
♀ —— 23	71	30,15	73	73½	Ditto.	Little wind, and fine weather
♄ —— 24	72	30,12	73	72	Ditto	Ditto
☉ —— 25	71¼	30,15	73½	74¾	Ditto	Ditto
☽ —— 26	72	30,17	73¾	73¾	S E	Ditto.
♂ —— 27	68¼	30,17	68¾	69	Ditto	Brisk wind, and fine weather
☿ —— 28	68¼	30,2	71	69½	East	Ditto, and cloudy, with showers
♃ —— 29	70	30,17	74	74½	Ditto.	Moderate wind and fine weather
♀ —— 30	71	30 05	73	75½	Variable	Little wind, and fine weather
♄ Oct 1	68	29,85	70¾	69¾	South.	Brisk wind, and fine weather
☉ —— 2	66	29,92	66¾	69½	S W	Little wind, and fine weather
☽ —— 3	68	29,87	68¾	68¾	Ditto	Brisk wind in squalls, with showers
♂ —— 4	66	29,97	69¾	69	West	Squally weather, with fog and rain
☿ —— 5	64¼	29 95	64¾	65¾	S W	Brisk wind, and fine weather
♃ —— 6	62	30,22	65	68½	Calm	Little wind, and cloudy weather
♀ —— 7	63	30,3	71		S E	Ditto
♄ —— 8	64¼	30,3	65¼	64½	Ditto	Moderate wind, and fine weather
☉ —— 9	62¼	30,32	64¼	62¾	South	Ditto
☽ —— 10	61¼	30,25	63¾		S E	Ditto
♂ —— 11	65	30 2	66¾	64¾	East	Ditto
☿ —— 12	63¼	30,25	66¼	65	N E	Ditto
♃ —— 13	62	30,22	65½	63	Ditto	Ditto
♀ —— 14	61¼	30,17	65¼	61½	Ditto	Ditto
♄ —— 15	60	30,02	65¾		North	Brisk wind, and cloudy weather
☉ —— 16	59¼	29,82	63½		Variable.	Ditto, with lightning and rain
☽ —— 17	58	29,55	59	59½	West	Strong wind, and cloudy, with showers
♂ —— 18		29,64	55¾		Ditto	Brisk wind, and cloudy
☿ —— 19		29,87	57		S W	Strong gusts of wind with rain, and cold weather
♃ —— 20		29 97	55		Ditto	Strong wind weather cold and rainy
♀ —— 21		29,19	58¾		Westerly	Moderate wind, and fine weather
♄ —— 22		29 74	61	6[illegible]½	S S E	Ditto
☉ —— 23	63¼	30,1	65	65½	Ditto	Ditto
☽ —— 24	65	30,04	70	64	S W	Ditto, and cloudy weather
♂ —— 25	65¾	29,68	67½		Variable	Moderate wind, and mostly cloudy
☿ —— 26	69¼	29 67	71	66¾	Westerly	Ditto, and cloudy
♃ —— 27	56	29,72	58¾		Ditto	Ditto
♀ —— 28	62½	29,67	68	64	Southerly	Ditto, and mostly cloudy, with rain
♄ —— 29	55½	29,42	58¼		S E.	Ditto, and cloudy
☉ —— 30	55	29 43	56¼		Ditto	Strong wind, and heavy rain
☽ —— 31	63	29 6	68	67	Variable	Moderate wind, and fine weather
♂ Nov 1	63¾	29 7	66		S E	Strong wind, and fine weather
☿ —— 2	61	29 38	65½	43	S S W	Brisk wind and fine weather
♃ —— 3	62	29 51	63	48	S W	Moderate wind, and fine weather
♀ —— 4	69	2),55	72½	53	Ditto	Ditto
♄ —— 5	62¼	29 75	73½	66	Variable	Brisk wind, and hazy weather
☉ —— 6	59¾	29,78	59¼		Ditto	Brisk wind, and drizzling rain

1774.		Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☽ Nov.	7.	56	29,5	58⅔	58	Variable.	Strong wind, and heavy rain.
♂ ——	8.	55½	29,4	64		S. W.	Briſk wind, and cloudy weather.
☿ ——	9	60	29,35	62	62	Weſterly.	Moderate wind; moſtly cloudy, with rain.
♃ ——	10.	58½	29,6	64¼		Variable.	Ditto, and cloudy weather.
♀ ——	11.	58	29,65	60	62⅓	N. W.	Little wind, and cloudy.
♄ ——	12.	58	29,6	61⅔	64	Weſterly.	Moderate wind, and ditto.
☉ ——	13.	54¼	29,75	56		N. N. E.	Little wind, and foggy weather.
☽ ——	14.	54	29,42	53⅔		Weſterly.	Briſk wind, and foggy, with rain,
♂ ——	15.	49½	29,42	51⅓	52	Ditto.	Moderate wind, with rain.
☿ ——	16.	47¼	29,45	50	52	Eaſt,	Briſk wind, and fine weather.
♃ ——	17.	48¼	29,35	50¼	51	N. W.	Ditto, and cloudy, with rain.
♀ ——	18.	47⅔	29,45	50½		North.	Ditto, and foggy.
♄ ——	19.	48	29,5	49		Ditto.	Ditto.
☉ ——	20.	45⅔	29,7	46		N. E.	Moderate wind, and foggy.
☽ ——	21.	44	28,85	43½		N. W.	Strong wind, thick fog, and rain.
♂ ——	22.	43½	29,4	44½		Southerly.	Moderate wind, and foggy.
☿ ——	23.	43	29,45	44½	48½	Weſt.	Little wind, and foggy weather.
♃ ——	24.	42½	29,85	46		N. W.	Briſk wind, and foggy weather: Penguins.
♀ ——	25.	43	29,87	45¼	43½	Ditto.	Ditto, and fine weather.
♄ ——	26.	43	29,85	43½		Ditto.	Ditto, and foggy: Many birds.
☉ ——	27.	43¼	29,77	44½	43½	North.	Ditto, and cloudy.
☽ ——	28.	43½	29,62	43½		N. W.	Strong wind, with rain and thick fog.
♂ ——	29.	45¼	29,75	45⅔		Ditto.	Moderate wind, and foggy: Sea-weed.
☿ ——	30.	45	29,97	47¾		N. E.	Little wind, and thick fog.
♃ Dec.	1.	45	29,57	45¼		S. E.	Moderate wind, and foggy, with rain.
♀ ——	2.	44	29,47	45¼		Ditto.	Ditto.
♄ ——	3.	43	29,27	45		Ditto.	Ditto.
☉ ——	4.	40	29,15	41¾	41¼	S. W.	Briſk wind, and cloudy.
☽ ——	5.	41½	29,37	43½		Ditto.	Ditto, ſnow and rain.
♂ ——	6.	39½	29,35	43	43	Weſt.	Ditto, ſnow and hail.
☿ ——	7.	43	29,2	46½	48	Ditto.	Moderate wind, and cloudy, with ſhowers.
♃ ——	8.	43¼	29,05	47		N. W.	Ditto.
♀ ——	9.	43½	28,92	47¼		Eaſterly.	Little wind, and foggy, with rain. Sea-weed.
♄ ——	10.	44	28,82	46½	44½	S. W.	Briſk wind, and cloudy: rain at times.
☉ ——	11.	42½	28,75	44	44¾	Weſt.	Ditto, and cloudy.
☽ ——	12.	43⅓	28,77	44¼	46½	Variable.	Ditto, and fine weather.
♂ ——	13.	52	28,75	47	45½	Weſt.	Moderate wind, and cloudy.
☿ ——	14.	44½	28,9	46½	45½	Ditto.	Briſk wind, and fine weather.
♃ ——	15.	44¾	29,05	46¼	45⅓	Ditto.	Ditto, and ſqually, with rain.
♀ ——	16.	44	29,17	46	46½	Ditto.	Moderate wind, & fine weather, Penguins, ſea-weed, & ſeals.
♄ ——	17.	45	29,17	47	47	Ditto.	Squally, with ſhowers. Made Cape Diſſeada.
☉ ——	18.		29,4	47	50	N. W.	Briſk wind, and fine weather.
☽ ——	19.	45½	29,55	50¼	48	N. E.	Little wind, and fair weather.
♂ ——	20.	47¼	29,62	54	53½	Eaſt.	Ditto.
☿ ——	21.	52	29,52	57		N. N. W.	Wind moderate, and fine weather, but cold.
♃ ——	22.		29,68	58¼		Eaſt.	Little wind, and cloudy, with ſhowers.
♀ ——	23.	47⅓	29,89	51½	49¼	Variable.	Moderate wind, with ſhowers, and cloudy.
♄ ——	24.	46	29,82	50	49½	Ditto.	Ditto, and moſtly cloudy.

1774			Morn Therm	Noon Barom	Noon Therm	Even Therm	Winds	Weather &c
☉	Dec	25	47	29,31	53½		Easterly	Moderate wind, with rain and sleet
☽	——	26	47	29,57	49	49	Ditto	Ditto, and fine weather
♂	——	27		29 55	51½		Westerly	Ditto, and cloudy weather
☿	——	28		29,7	50½		S W	Ditto, and foggy, with rain
♃	——	29	48	29 7	59	52¾	West	Brisk wind, and squally, with rain
♀	——	30	54	29,65	56½	54	N W	Ditto, and cloudy
♄	——	31	50	29,35	52¼	51½	W N W	Ditto, and cloudy, with showers
1775								
☉	Jan	1	52	29,62	54		S W	Ditto
☽	——	2	47	29,65	48½	51¼	West	Brisk wind, and squally weather
♂	——	3	49	29,62	52½		Ditto	Moderate wind, with showers
☿	——	4	47	29 62	51		Ditto	Brisk wind, and cloudy rain at times
♃	——	5	43	29,6	47	45½	Ditto	Ditto
♀	——	6	43	29,52	41½	43	Ditto	Moderate wind, and cloudy
♄	——	7	40¼	29,72	40½	43	Ditto.	Brisk wind, and fine weather
☉	——	8	44	29,5	49	50½	North	Moderate wind, and ditto
☽	——	9	43¼	29,35	43½		N W	Brisk wind, and foggy Seal and ice weed
♂	——	10	43	29,15	45		West	Moderate wind, and foggy
☿	——	11	42¼	29 2	47	45	S W	Ditto, and cloudy Porpoises and birds
♃	——	12	40½	29,2	42¾		Variable	Ditto Penguins, seals, and ice weed
♀	——	13	40	29 17	39	37	S E	Moderate wind, and foggy Several penguins
♄	——	14	35	29,37	37½	37½	Variable	Ditto, and cold cloudy weather
☉	——	15	34½	28,7	35¼		S E	Brisk wind, with snow
☽	——	16	34	29 25	39¼		S W	Moderate wind, with snow and sleet
♂	——	17	35	29,45	39½	39½	Variable.	Ditto, and fine weather
☿	——	18	37½	29 6	43	41½	S W	Ditto
♃	——	19	37½	30,02	45	42	Variable	Moderate wind, and cloudy
♀	——	20	39	29 72	44	39	Ditto	Ditto,
♄	——	21	38	29,5	39	40	South.	Little wind, and foggy I cannot help re-

marking that all the time we were off, and in the neighbourhood of South Georgia, whenever the Southern winds blew, the cold was much less severe than when they blew from the Northward

☉	——	22	33½	29,82	39½		N E	Little wind, and foggy weather
☽	——	23	37¼	29 22	39		Ditto	Ditto, and thick fog
♂	——	24	37	29,0	41		North	Ditto, and foggy Whales
☿	——	25	39	29,12	40¼	39½	Ditto	Brisk wind, and thick fog Whales
♃	——	26	42½	29,2	41¾		N W	Ditto, and foggy weather Whales & penguins
♀	——	27	39	29,22	39	36	North.	Moderate wind and foggy Many whales, penguins, &c
♄	——	28	34¼	29,12	37	33¾	Ditto	Ditto, fog, rain, and sleet Whales, pen-

guins, petterals, and ice islands without number

☉	——	29	34½	29,2	39		North	Little wind, and cloudy Still many

whales, penguins ice islands, and birds of various sorts

☽	——	30	34¾	29 25	35		N W	Brisk wind, and thick fog Much ice
♂	——	31	34½	29,15	37	39½	West	Moderate wind, and thick fog Saw land
☿	Feb	1	33¼	29 17	39	35	Variable	Little wind, and fine weather
♃	——	2	34½	29 2	36	37	Ditto	Ditto, and foggy Many penguins, &c
♀	——	3	34½	29,0	36		S E	Moderate wind, and foggy
♄	——	4	34½	28,87	38		Ditto.	Little wind, and ditto.

1775.		Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
☉	Feb. 5.	36¼	29,5	38½	37	Weſterly.	Moderate wind, and foggy. Six ice iſlands.
☽	—— 6.	36	29,17	38		N. and W.	Briſk wind, and cloudy. Snow at times. Ice.
♂	—— 7.	34½	29,0	37½	35½	S. W.	Strong wind, and cloudy. Several ice iſlands.
☿	—— 8.	35½	29,17	37½		Ditto.	Moderate wind, and cloudy. Ice iſlands.
♃	—— 9.	35½	29,25	40	40	Variable.	Little wind, and cloudy, with ſnow. Ice.
♀	—— 10.	33	29,32	34½	34	S. W.	Briſk wind, and moſtly cloudy. Ice.
♄	—— 11.	33½	29,52	36½		Variable.	Little wind, and cloudy: ſnow at times. Ice.
☉	—— 12.	32¼	29,17	37½	35½	S. E.	Little wind, and moſtly cloudy. Much ice.
☽	—— 13.		28,97	33		Ditto.	Moderate wind, and cloudy: ſnow at times.
♂	—— 14.	29	28,92	32½	37	S. W.	Briſk wind, and ſqually weather. Some ice.
		Having completed 360° of Longitude, I here dropped the circle, and repeated a day.					
♂	—— 14.	34½	29,27	35½	35½	S. W.	Briſk wind, and cloudy: ſnow at times. Ice.
☿	—— 15.	35½	28,97	36½		Eaſt.	Little wind, and cloudy: ſometimes ſleet.
♃	—— 16.	33	28,87	33	33½	Southerly.	Briſk wind, with ſleet. Several ice iſlands.
♀	—— 17.	33	29,57	36	36½	N. and W.	Moderate wind, and fine weather. Some ditto.
♄	—— 18.	33	29,47	34½		North.	Briſkwind,and cloudy,with ſleet. Several ditto.
☉	—— 19.		28,92	35½		W. N. W.	Ditto, and foggy, with ſleet.
☽	—— 20.	34½	28,95	40		Variable.	Ditto, and cloudy. Little ice.
♂	—— 21.	35	29,2	37	37	Weſterly.	Moderate wind, and cloudy: ſnow at times.
☿	—— 22.	34	29,42	36		Northerly.	Briſk wind, and cloudy: ſnow & ſleet. Whales.
♃	—— 23.	35½	28,97	35½		N. W.	Ditto: ſnow at times.
♀	—— 24.	37	28,95	38½		Ditto.	Strong wind, and ſqually weather. One ice iſl.
♄	—— 25.	37¾	29,72	41		Ditto.	Moderate wind, and moſtly cloudy, with fog.
☉	—— 26.	39¾	29,97	45¼		Ditto.	Briſk wind, and foggy. Saw ſea-weed.
☽	—— 27.	45	29,87	47		North.	Ditto, with rain. Penguins, &c.
♂	—— 28.	48½	29,90	49	43½	Variable.	Moderate wind, and foggy: rain at times.
☿	March 1.	43½	29,7	47		N. W.	Briſk wind, and foggy: ditto.
♃	—— 2.	45½	29,62	47	43	Weſt.	Ditto, and foggy weather.
♀	—— 3.	42	30,02	44	44	N. W.	Ditto, and cloudy.
♄	—— 4.	51¼	29,92	55	57	North.	Ditto, and fine weather.
☉	—— 5.	53	29,5	50½		N. W.	Ditto, and foggy weather.
☽	—— 6.	51½	29,82	52½	54	Weſt.	Ditto, and cloudy.
♂	—— 7.	57	29,95	61½	60¼	N. W.	Ditto.
☿	—— 8.	61½	29,87	64		North.	Moderate wind, and cloudy.
♃	—— 9.	62	29,57	63½	56½	Weſt.	Moderate wind, and cloudy, with rain.
♀	—— 10.	53½	29,82	52½	52½	S. W.	Moderate wind, and cloudy.
♄	—— 11.	51	30,02	51½		Weſt.	Little wind, and cloudy weather.
☉	—— 12.	59	30,12	62	63½	Variable.	Moderate wind, and ditto.
☽	—— 13.	67	29,85	71	72½	N. W.	Briſk wind, and ſqually, with ſhowers.
♂	—— 14.	70½	29,65	72½	70¼	Ditto.	Strong wind, and cloudy.
☿	—— 15.	69	29,87	72½	69	Weſt.	Briſk wind, and cloudy weather.
♃	—— 16.	66	30,2	69	68½	Variable.	Little wind, and fine weather.
♀	—— 17.	69	30,15	70	69½	Weſterly.	Moderate wind, and ditto.
♄	—— 18.	58	30,05	70½		S. W.	Ditto, and cloudy.
☉	—— 19.	65½	30,2	65½	65¼	S. E.	Briſk wind, and ditto.
☽	—— 20.	65	30,07	66¼		Ditto.	Variable weather.
♂	—— 21.		30,08	75	76½	Ditto.	Moderate wind, and fine weather.

1775	Morn Therm	Noon Barom	Noon Therm	Even Therm	Winds	Weather &c
☿ March 22		30,03	77			All the former part of the time that we lay at the Cape of Good Hope, the weather was fine and clear, and the wind South easterly; but pretty early in April it began frequently to veer round to the North west, and towards the latter end was almost constantly there Whenever this happened the air was thick and foggy, with rain and cold raw weather; but if the wind returned to the East, or South east, though for an hour or two only, the weather cleared up, and the fogs which, with the North west winds covered the hills down to the very skirts of the town, were dispersed, or, at least, hung only about the very tops of them
♃ —— 23						
♀ —— 24						
♄ —— 25			73			
☉ —— 26	66	29,92	69¾			
☽ —— 27	59	30,07	64	63⅓		
♂ —— 28	57¾	30,28	65⅓	65		
☿ —— 29	65¾	30,2	71	69¼		
♃ —— 30	68½	30,15	73½	73		
♀ —— 31	64½	30,04	71	69⅓		
♄ April 1	66	30,05	71¾	70		
☉ —— 2	69	30,1	75	75		
☽ —— 3	66½	30,08	73¾			
♂ —— 4	67½	30,05	80			
☿ —— 5	73	30,0	78¾	80½		
♃ —— 6	69½	29,94	81	80¾		
♀ —— 7	72	29,98	75			
♄ —— 8		30,03	72			
☉ —— 9	71¾	30,01	75⅓	71		
☽ —— 10	69½	29 9	77	76		
♂ —— 11	66	29,86	68	65¼		
☿ —— 12	65	30,02	69	63½		
♃ —— 13	63½	30,02	68¾	67¾		
♀ —— 14	61¼	30,02	69½	64		
♄ —— 15	61	30,01	68	67		
☉ —— 16	63½	30,0	69¼	64		
☽ —— 17	61¼	29,95	65	61¾		
♂ —— 18	64½	30,17	64¾	66		
☿ —— 19	66	30,18	70	70¼		
♃ —— 20	67	30,04	73¾	73¾		
♀ —— 21	63½	29,94	68¼			
♄ —— 22	62	29,87	63¾			
☉ —— 23	59½	29,84	64¼	65		
☽ —— 24		30,0	66			
♂ —— 25		30,15	66			
☿ —— 26					N W	Cloudy, with showers, and brisk wind
♃ —— 27		30,34	62		S W by S	Moderate wind, and cloudy
♀ —— 28	63¼	30,32	68¾		South	Brisk wind, and fine weather
♄ —— 29	64	30,07	66		S S E	Ditto
☉ —— 30	62	30,15	63½		Ditto	Moderate wind, and fine weather
☽ May 1	63¼	30,2	66⅓	65	S E. by E	Ditto
♂ —— 2	64½	30,05	66¾	66½	S E	Ditto
☿ —— 3	67	30,0	69	67½	Ditto	Ditto
♃ —— 4	66½	30 0	67¾	67	Variable.	Little wind, and fine weather
♀ —— 5	67	30,07	67		Calm.	Drizzling rain at times; but fine weather
♄ —— 6	64¾	30,15	66	67	S S E	Moderate wind, and cloudy rain at times
☉ —— 7	65½	30,2	67¼	66	Ditto	Moderate wind, and cloudy
☽ —— 8	65½	30,22	68	66½	Ditto	Ditto and fine weather

1775.		Morn. Therm.	Noon. Barom.	Noon. Therm.	Even. Therm.	Winds.	Weather, &c.
♂	May 9.	67½	30,22	68½	68½	S. E. by S.	Moderate wind, and fine weather.
☿	—— 10.	67½	30,17	69½		S. E.	Little wind, and cloudy.
♃	—— 11.	68	30,15	70½	69½	Eaſt.	Little wind, and fine weather.
♀	—— 12.	69½	30,22	72½	69	S. E.	Ditto.
♄	—— 13.	70½	30,2	74	72½	S. E.	Ditto.
☉	—— 14.	69½	30,15	72½	70½	S. E.	Ditto.
☽	—— 15.	71	30,2	72	72½	S. S. E.	Moderate wind, and cloudy.
♂	—— 16.	73½	30,12	75½	73	S. E.	Little wind, and cloudy, with ſhowers.
☿	—— 17.	71	30,17	73	73½	S. E.	Briſk wind, with drizzling rain.
♃	—— 18.		30,2	72½		S. E.	Little wind, and cloudy weather.
♀	—— 19.			76½		S. E.	Ditto.
♄	—— 20.			76		Variable.	Little wind, with ſhowers.
☉	—— 21.					S. E.	Ditto.
☽	—— 22.	70		70		S. E.	Moderate wind, with rain.
♂	—— 23.	72½	30,15	74½		Eaſt.	Briſk wind, and cloudy, with ſhowers.
☿	—— 24.	72½	30,17	73		E. S. E.	Moderate wind, and cloudy.
♃	—— 25.	72½	30,1	75	75	S. E. by E.	Briſk wind, and fine weather.
♀	—— 26.	75	30,02	77½	77½	E. by S.	Moderate wind, and fine weather.
♄	—— 27.	76½	30,02	79	79	S. E.	Ditto.
☉	—— 28.	77½	30,07	78½	78½	S. E.	Briſk wind, and cloudy weather.
☽	—— 29.	76	30,02	79		S. E.	Mod. wind, flying clouds, and fine weather.
♂	—— 30.		30,07	80½		S. E.	Ditto.
☿	—— 31.	75½	30,1	82	80½	E. S. E.	Moderate wind, and heavy ſhowers.
♃	June 1.	77	30,15	79½	78	S. E.	Moderate wind, and fine weather.
♀	—— 2.	77	30,12	78½	77	S. E.	Ditto.
♄	—— 3.	75½	30,12	78	77	S. E.	Ditto.
☉	—— 4.	77	30,07	79½	79½	S. E. by E.	Ditto.
☽	—— 5.	78½	30,12	80	79	S. E. by E.	Ditto.
♂	—— 6.	79½	30,12	81½	79½	S. E. by E.	Ditto.
☿	—— 7.	79½	30,15	81	81	S. E. by E.	Briſk wind, and fine weather.
♃	—— 8.	80	30,1	82¾	80	E. S. E.	Ditto.
♀	—— 9.	80½	30,02	82	81½	E. S. E.	Ditto.
♄	—— 10.	80	30,05	82½	81	E. S. E.	Briſk wind, and cloudy.
☉	—— 11.	79½	30,0	81	80	E. S. E.	Squally, with heavy ſhowers.
☽	—— 12.	80½	30,05	81½	81	E. by S.	Ditto.
♂	—— 13.	80	30,07	81½		Eaſt.	Moderate wind, and ſhowers.
☿	—— 14	77½	30,05	79½	79½	Eaſt.	Little wind, and ſhowers.
♃	—— 15.	77½	30,07	78¾		S. E. by E.	Ditto, and heavy rain.
♀	—— 16.	77	30,07	81½	80½	Variable.	Ditto, and cloudy.
♄	—— 17.	76½	30,05	79	79½	S. E.	Ditto, and hot ſultry weather.
☉	—— 18.	76½	30,05	78	80½	Variable.	Ditto, and frequent ſhowers.
☽	—— 19.	79½	30,07	82	79½	N. E.	Ditto.
♂	—— 20.	80	30,02	81	80½	N. E.	Little wind, and fine weather.
☿	—— 21.	79½	30,05	83	81	N. E.	Briſk wind, and fine weather.
♃	—— 22.	80	30,05	84½	80½	N. E.	Moderate wind, and fine weather.
♀	—— 23.	78	30,02	80	80	N. E.	Ditto.
♄	—— 24.	76½	30,1	78½	78	E. N. E.	Moderate wind, and cloudy.
☉	—— 25.	76	30,1	82½	79	N. E. by E.	Briſk wind, and cloudy.

1775			Morn. Therm.	Noon Barom.	Noon Therm.	Even. Therm.	Winds	Weather &c.
☽	June	26	76	30,19	78¼	78½	N E by E	Brisk wind, with showers
♂	——	27	75½	30,17	78	77	E N E	Moderate wind, and fine weather
☿	——	28	75	30,22	78	80	East	Brisk wind, and cloudy showers
♃	——	29	75½	30,27	[illegible]		E by N	Moderate wind, and cloudy
♀	——	30	76½	30,37	80½	80	Ditto	Brisk wind, and fine weather
♄	July	1	74¼	30,45	76½	76	East	Moderate wind, and fine weather
☉	——	2	73½	30,37	75	75½	E S E.	Moderate wind, and cloudy
☽	——	3	74	30 4	74	75	Ditto	Ditto
♂	——	4	73½	30,45	75	74	East	Ditto
☿	——	5	73	30,5	75	76	Ditto	Little wind, and fine weather
♃	——	6	74½	30,52	76½	75	Calm	Fine weather
♀	——	7	74	30 5	77¼	76½	E S E.	Little wind, and fine weather
♄	——	8	74	30,42	76½	79¼	Variable	Ditto
☉	——	9	73¼	30,35	76¼	78¼	S W	Ditto
☽	——	10	74	30,35	76¼	76½	Ditto	Ditto
♂	——	11	76½	30,32	76	76	S S W	Brisk wind, and cloudy
☿	——	12	73	30 22	75¼	75	Ditto	Ditto
♃	——	13	72	30,3	74½	74	S by W	Moderate wind, and flying clouds.
♀	——	14	71½				S W	Ditto
♄	——	15			76½		Ditto	Brisk wind, and cloudy
☉	——	16			76½		N W	Moderate wind, and cloudy
☽	——	17			76¼		West	Ditto, and mostly cloudy
♂	——	18			77½		Westerly	Ditto, and fine weather
☿	——	19	7 ½	30,15	78	74	S W	Brisk wind, and cloudy, with rain.
♃	——	20	67½	30,17	75¼	77½	N E	Moderate wind, and mostly cloudy
♀	——	21	69½	30,17	70½	74	N N E	Ditto, and fine weather
♄	——	22	66¼	30,1	74½	73½	N W	Ditto
☉	——	23	66½	30 02	69¼	72	Ditto	Brisk wind, and fine weather
☽	——	24	65¼	29,95	69¼	70	Ditto	Ditto, with showers
♂	——	25	63½	30,05	67	68	West	Moderate wind, and fine weather
☿	——	26	60½	29,77	64	63½	Ditto	Brisk wind, and squally
♃	——	27	62¼	29,72	64½	69	Ditto	Moderate wind, and fine weather
♀	——	28	61½	29,75	64½	65	Ditto	Ditto
♄	——	29	61½	29,85	62½	64	N W	Brisk wind, and hazy weather
☉	——	30	60½				Westerly	Moderate wind, and fine weather

In the preceding Journal, the civil day is to be understood; namely, from midnight to midnight. In my account of the weather, I have endeavoured to be as particular as possible, consistent with the plan I had prescribed to myself, of confining the remarks of one day to a line, except on some particular occasions, where the circumstances required, and, as I thought, merited a more ample description. And as many of the terms which I have made use of, though meant here to convey very different ideas, may be looked upon, and are really used by some persons, as synonymous; I shall here endeavour to give a short explanation of the sense I would wish them to be understood in. By the term *Fine Weather*, is to be understood such weather as was in general clear, at least where few clouds were abroad. If the word *Clear* occurs, it is to be understood that the air was at that time remarkably clear and serene. By

Flying Clouds, I exprefs that weather where we had large clouds, obfcuring a confiderable part of the hemifphere; but which moved pretty quick, and did not continue long in a place. I have put *Moftly Cloudy* on thofe days, the greater part of which the heavens were overfpread with fettled clouds, but whereof fome parts of the day were pretty clear. Thofe days are called *Cloudy* whereon the fun was but feldom, or perhaps never diftinctly feen: the term alfo includes thofe days on which he was not feen at all. By the term *Showers*, I wifh to exprefs thofe days whereon we had alternately rain and fine weather; and by Rain at times, thofe on which the fky did not clear up between the fhowers, but remained fettled cloudy weather. *Cloudy, with Rain*, denotes rain for the greater part of the day, at leaft; and alfo thofe days on which we had conftant rain from the beginning to the end, of which we had fome few. Thofe days are denominated *Hazy* on which the face of the heavens was overfpread, as it fometimes is, with a thin grey cloud; or when the fine blue fky was in fome meafure obfcured by a very thin mift. The terms *Foggy*, and *Thick Fog*, as well as the degrees of comparifon which are annexed to the wind, will, I flatter myfelf, be fufficiently underftood without farther explanation.

It may be neceffary to add, that it always froze when my thermometer fell to 33°, and fometimes when it ftood at 33°½; and, therefore, I conceive the freezing point, on that thermometer, fhould not be taken lower than the laft-mentioned number.

A Z I M U T H S

OF THE

SUN'S CENTER,

Taken with an AZIMUTH COMPASS;

TOGETHER WITH

The Altitudes of his Lower Limb, taken at the ſame Time, with HADLEY's Sextant,

FOR

Determining the Variation of the MAGNETIC NEEDLE,

On Board His MAJESTY's Sloop RESOLUTION,

In her late Voyage on DISCOVERIES towards the SOUTH.

1772.	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s Center. ° ′	No. of Obs.	Variation West. ° ′	Latitude North. ° ′	Longitude West. ° ′	Observers, and Remarks.
♀ June 26.	9 38	N. 85 3⅓ E.	3	20 12⅓			Observed by Captain Cook. Dungeness bearing W. ½ N. two or three leagues.
	11 21⅔	N. 86 23⅓ E.	3	19 22⅔			
	13 9¾	N. 89 1¼ E.	2	19 47¾			
♂ —— 30.	1 53	N. 31 26⅔ W.	2	23 14			Portland N. ½ E. about 15 miles. Mr. Gilbert.
	Amplit.	N. 27 45 W.	1	24 20			
	11 8⅔	N. 89 26⅔ E.	3	22 10⅓			The Start N. W. by N. ½ W. distance about 6 or 7 leagues. Observed by Captain Cook.
	12 2⅔	N. 90 35 E.	3	22 13			
☿ July 1.	6 42	N. 36 40 W.	3	25 3¼			The Start N. W. ½ W. and Berry Head N. N. E.
	6 17⅔	N. 36 33⅓ W.	3	24 38			
♂ —— 21.	12 32	N. 49 56 W.	5	23 58	43 30	9 18	Mr. Gilbert.
	21 8⅔	S. 77 49 E.	5	20 45	43 42	9 18	
☿ —— 22.	15 23⅔	S. 81 16⅔ E.	3		42 41⅓	10 6	
	16 7	S. 80 26⅔ E.	3		42 41⅓	10 6	Mr. Gilbert.
♃ —— 23.	Azim.			22 45	41 44	10 42	Mr. Gilbert.
☽ —— 27.	Ditto.			20 23	33 27	15 37	Capt. Cook.
☽ Aug. 3.	Ditto.			15 50	29 5	17 40	Mr. Gilbert.
♂ —— 4.	Ditto.			14 57	28 19	18 40	Observer unknown.
	Amplit.			15 0	28 19	18 40	Ditto.
♃ —— 6.	Azim.			13 11	24 41	19 20	Ditto.
♀ —— 7.	Ditto.			14 39	23 31	19 30	Ditto.
	Amplit.			14 40	23 31	19 30	Ditto.
☉ —— 9.	12 59¾	N. 65 50 W.	6	12 2	19 33	20 45	Ditto.
	5 20⅓	N. 65 11 W.	6	10 44	15 45	23 18	
	Amplit.	N. 63 27 W.	1	10 59	15 44	23 20	
♂ —— 18.	Azim.			9 6	11 11	21 22	Observer unknown.
♃ —— 27.	6 6	N. 6 10 W.	1	13 28¼	4 2	11 36	
	16 47⅓	S. 85 15 E.	7	13 33	3 49¼	10 40	
♀ —— 28.	10 39⅓	N. 67 9 W.	5	18 59	3 38	10 6	
	9 20⅓	N. 95 28⅓ E.	8	14 13	3 18	9 23	
☉ —— 30.	15 22	N. 66 52¼ W.	2	14 57¼	2 34	7 3	
☽ —— 31.	18 22⅓	S. 81 57⅓ E.	7	15 52	2 12¾	5 41	
♃ Sept. 3.	15 47⅔	S. 82 46 E.	5	14 14¼	0 51	8 40	
♀ —— 4.	6 18 9/10	N. 68 0 W.	5	15 11¾	0 45	9 15	
	Amplit.	N. 68 30 W.	1	14 43	0 44	9 17	
☽ —— 7.	19 18⅓	S. 81 37 E.	5	14 15	0 10¼	8 35	
♃ —— 10.	14 11¼	S. 82 43⅓ E.	9	12 32	2 53	11 55	
♀ —— 11.	Azim.			11 44	3 18	12 21	Observer not known.
	Amplit.			11 40	3 18	12 21	
♄ —— 12.	Azim.			12 23	4 21	13 0	Ditto.
	Ditto.			12 26	4 56¼	14 7	
☉ —— 13.	Ditto.			9 53	6 24	14 32	Ditto.
☿ —— 16.	Ditto.			7 17	9 50	18 0	Ditto.
	Amplit.			7 53	9 50	18 0	
☉ —— 20.	Azim.			5 7	16 1	20 23	Ditto.
	Amplit.			4 3	16 3	20 24	
☽ —— 21.	12 20	N. 90 21 E.	5	3 49	18 26	21 15	

1772.		Altitude of the ☉ L. L.	Magnetic Azimuth of the ☉'s Center	No. of Obs.	Variation West	Latitude South	Longitude West	Observer and Remarks
		° ′	° ′		° ′	° ′	° ′	
☽	Sept 21	Amplit			3 43	19 2	21 46	Observer not known
☿	—— 23	12 59 1/11	N 82 24 1/6 W	6	3 16	20 28	22 7	
♀	—— 25	6 38¼	S 89 [illegible] E	4	2 8	24 6	23 32	By a compass of [illegible] which hung on friction wheels
		9 59¼	S 90 35¼ E	7	2 19	24 6	23 32	By a Knight's compass
♄	—— 26	10 25 3/7	S 95 1 W	5	2 1½	24 25	23 51	Mr Pickersgill
		9 7 2/7	S 94 17 W	5	1 53	24 25	23 51	
		Amplit.	N 92 40 W	1	0 50	24 25	23 51	Mr Pickersgill
		16 23	S 94 32 E.	5	0 39	24 40½	23 51½	
☉	—— 27	20 0 1/7	S 95 30 W	7	2 5	24 51½	23 51	
		Amplit.	S 89 0 W	1	1 15	24 52	23 51	Mr Gilbert
		Ditto M		1	1 11	25 12	23 31	Ditto
☽	—— 28	8 50 1/7	S 88 50 E	5	2 36½	26 46½	20 36	
☿	—— 30	8 57 3/7	S 87 36 E	5	3 14 1/7	27 20	18 36	
♃	Oct 1	5 38 1/7	N 87 0 W	3		27 28	17 59	
		6 56 1/7	S. 84 1 1/5 E	9		27 31	17 34	
☽	—— 5	9 11 1/6	N 84 33 1/3 W	9	6 13	28 59½	11 30	
♄	—— 10	15 0 1/6	N 79 39 1/7 W	7	8 30½	34 30½	8 8	
☉	—— 11	Azim			8 30	34 47½	6 48	Observer not known
☽	—— 12	16 9 1/7	N 79 39 1/7 W	7	8 30½	34 52½	6 24	
							East	
♄	—— 17	15 54 1/7	N 76 30 5/7 W	7	14 9½	35 0	4 40	
☽	—— 19	22 45 1/11	N 71 49 W	5	15 9½	34 24	7 40	Obs by the shadow of the thread
		16 56 1/7	N 75 37 W	5	15 23			By looking at the sun
♂	—— 20	14 42 3/7	N 75 55 W	8	16 56 1/3	34 57	7 55½	
		14 4 1/7	S 71 34 1/6 E	6	14 59	35 19	7 35	
☿	—— 21	11 54	N 79 8 W	7	15 56	35 52	7 36	
☽	—— 26	Azim			20 57	34 25½	14 50	Observer not known
		Ditto			21 26½	33 40	15 10	Ditto.
♂	—— 27	26 2 3/7	N 67 5 W	5	21 34	33 41	15 38	
☿	—— 28	18 5 1/7	N 73 14 1/3 W	7	21 30	33 45½	15 42	
♀	Nov 27	23 17 1/7	N 79 37 W	5	19 7	40 19 1/6	16 27	Mr Gilbert
		20 14 1/7	N 81 15 W	5	19 55	40 20	16 27	
♀	Dec 4	14 43 1/7	S 56 43½ E	8	16 4½	46 42 1/6	18 10	Mr Pickersgill
		15 15 1/3	S 57 18 1/3 E	3	16 31 1/7			
☉	—— 6	19 55 4/7	N 83 57 6/7 W	7	17 51½	48 48	18 16	
		15 51 1/7	N 87 39 2/7 W	7	18 38½			
☿	—— 9	10 18½	S 49 45 1/6 E	6	16 32	50 42	21 8	
		11 50 1/6	S 51 46 1/7 E	8	16 26			
☿	—— 16	34 55 1/7	S 76 49 E	5	22 9½	55 8 1/3	23 44	
♃	—— 17	5 2 1/10	S. 76 23 W	10	21 9 1/3	55 8½	24 17	
♄	—— 19	12 8½	N 89 1½ W	10	22 26½	54 15	25 56	
☽	—— 21	16 1 1/7	N 86 1 1/7 W	8	21 47½	54 40 1/3	29 45	
♂	—— 22	5 32 1/7	S 31 58 E	5	23 56	55 17	31 58	Mr Clerke.
♄	—— 26	17 58	N 85 42 W	5	19 37	58 32 1/7	26 24	
		13 9 4/7	S 86 4 W	6	19 14	68 32 1/7	26 20	

1773.	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s Center. ° ′	No. of Obf.	Variation Weft. ° ′	Latitude South. ° ′	Longitude Eaft. ° ′	Obfervers, and Remarks.
♄ Jan. 2.	19 42	N. 89 18 W.	5	12 16¼	58 51	10 34	Mr. Gilbert.
	16 11	S. 84 45 W.	5	12 3	58 50½	10 33	
	16 14 4/5	S. 84 42 W.	5	13 33	58 50½	10 33	Mr. Clerke.
	13 14	S. 79 52 W.	5	11 55¼	58 50	10 32	Capt. Cook.
♃ —— 7.	9 36	S. 32 41 2/5 E.	3	28 19	61 9	31 42	
	13 35¼	S. 39 8 2/5 E.	4	28 53	61 10	31 47	
♀ —— 8.	10 10 2/5	S. 32 30 E.	6	29 42	61 30	34 40	
☉ —— 10.	5 51¼	S. 29 19 4/7 E.	7	22 50½	62 44	37 25	Mr. Pickerfgill.
	13 53 4/9	S. 43 59 5/9 E.	9	25 30½	62 47 1/3	37 27	Mr. Cooper.
☽ —— 11.	8 8 1/5	S. 32 26 E.	5	23 47			Gregory's Compafs.
	8 48 3/5	S. 34 33 E.	5	23 12	64 11 1/5	38 22	A Knight's ditto. Capt.
	9 55 4/5	S. 36 53 E.	7	23 33			Gregory's ditto. Cook.
	10 43 2/5	S. 37 30 E.	5	24 44			Another Knight's.
♃ —— 14.	19 51	N. 69 30 W.	3	28 0			Gregory's Compafs.
	19 11	N. 70 0 W.	5	28 10	63 53	39 20	A Knight's ditto. Capt. Cook.
	18 16	N. 72 22 W.	4	28 22			Another Knight's
♄ —— 16.	20 5 9/10	N. 68 49 W.	5	27 9	64 55	39 10	Capt. Cook.
	18 10 9/10	N. 72 49 1/8 W.	6	27 12	64 55 1/8		
♃ —— 21.	20 15 3/5	N. 62 31 2/5 W.	7	31 13			Mr. Gilbert.
	19 23 1/6	N. 64 4 W.	5	31 23	62 28 1/3	42 6	
	18 39	N. 64 27 W.	5	32 23			Mr. Clerke.
♀ —— 22.	24 8	S. 60 19¼ E.	10	33 1½	60 27	45 12	Capt. Cook.
☉ —— 24.	8 48 1/3	N. 76 13 1/3 W.	3	35 30	57 50½	49 52	Mr. Gilbert.
	4 39 3/5	N. 84 39 1/3 W.	5	34 14½	57 48		Mr. Pickerfgill.
☿ —— 27.	17 2 4/5	N. 65 56 W.	10	31 24¼	56 6 1/6		Capt. Cook. Greg. Comp.
	14 57 9/11	N. 69 0 5/11 W.	11	31 22¼	56 6¼	51 35	Mr. Clerke. Ditto.
	10 4½	N. 74 7½ W.	4	33 31¼	56 6½		Mr. Gilbert. A Knight's dit.
♃ —— 28.	8 0	N. 76 0 W.	1	33 4	53 49	52 31	
☉ —— 31.	Amplit.	N. 86 37½ W.	1	30 49	50 13	57 30	
☉ Feb. 2	18 44 1/3	N. 65 55 3/7 W.	7	27 52¼			Capt. Cook.
	15 35 1/3	N. 69 33 4/7 W.	7	27 48	49 7	60 24	Ditto.
	14 35 1/3	N. 71 29 W.	5	27 2			Mr. Clerke.
	12 53½	N. 72 57½ W.	2	27 27½			
	12 27 1/6	S. 46 39 1/6 E.	6	32 40	48 48	61 20	
	13 42	S. 48 24 1/6 E.	6	32 20			Mr. Pickerfgill.
♃ —— 4.	14 10	N. 70 12 1/3 W.	9	27 54½	49 37 2/5	59 25	
	5 13	N. 75 25 2/5 W.	7	33 8½	49 37 2/5	59 22	
♀ —— 5.	12 43 5/9	N. 68 37 5/9 W.	9	30 37¼	48 34	59 6	Capt. Cook.
	11 34	N. 69 16¼ W.	4	31 16¼			
♄ —— 6.	3 8 3/5	N. 77 12¼ W.	11	32 24¼	48 8½	60 25	Capt. Cook.
☉ —— 7.	6 55¼	N. 73 51 1/7 W.	8	31 8	49 8 2/5	63 8	
♂ —— 9	18 18 4/9	S. 62 2 E.	9	27 33	49 50	65 10	Capt. Cook.
♀ —— 12.	12 40½	N. 62 53 1/5 W.	8	32 33	53 6½	71 25	Mr. Gilbert.
	12 39¾	S. 50 17 1/7 E.	7	34 45¼	53 32	72 57	Mr. Cooper.
	13 32	S. 52 51 1/7 E.	7	33 10½			Mr. Gilbert.
☉ —— 14.	20 0 4/7	N. 46 33 4/7 W.	7	36 12	55 40 2/5	74 50	Capt. Cook.

1773	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s Center ° ′	No. of Obs.	Variation West ° ′	Latitude South ° ′	Longitude East ° ′	Observers, and Remarks
☽ Feb 15	18 27½	N 45 0 W	6	39 11	57 4	80 9	
	12 19	N 56 49½ W	8	36 53½	57 6	80 12	Mr Gilbert
	11 28	N 56 4 W	6	38 22	57 6	80 12	Mr Pickersgill
☿ —— 17	4 39	S 33 50 E		41 45	57 54	83 6	Ditto
	33 14½	S 87 23 E	11	39 35	57 64½	83 40	Capt Cook
♃ —— 18	17 57½	N 44 45 W	5	37 44	58 2½	84 42	Mr Pickersgill
	16 59	N 45 20 W	6	38 45			
	14 32½	N 48 6 W	5	39 58	58 2½	84 42	
	4 57½	N 62 26½ W		37 8½	58 5	84 48	Capt Cook
♀ —— 19	8 27½	S 42 15 E	5	40 53	58 49	91 2	Mr Clerke
	10 24½	S 43 32 E.	5	42 49½			
♄ —— 20	11 26⅞	N 51 20½ W	9	40 13	58 46½	91 58	Capt Cook
	9 8½	N 54 33 W	5	40 49	58 46	91 59	Mr Clerke
	13 42	S 57 18½ E	6	35 17	58 55½	92 45	Mr Pickersgill
	14 33¼	S 58 6 E	5	35 56½			Mr Gilbert
☉ —— 21	21 9½	S 65 57½ E	4	40 58¼	59 19	93 55	
♃ —— 25	12 26½	N 43 14½ W	7	42 29¼	60 49½	96 10	
	11 8	N 44 16 W	7	43 45			Capt Cook
	7 41 7/10	S 44 56 E.	10	41 23			Mr Clerke
	8 46½	S 47 36 E	6	40 31	60 58	97 26	Mr Burr
	9 35½	S 48 19 E	5	41 17½			Mr Gilbert.
☿ March 3	22 27	N 22 21 1/7 W	7	39 15½	60 12¼	110 52	Ditto
♄ —— 6	15 11½	N 41 47½ W	7	32 11	59 56½	119 7	
☉ —— 7	10 6 6/7	S 69 25 1/7 E	7	28 33	59 44	121 18	Mr Gilbert.
	13 53¼	S 73 1¼ E	4	31 47			
☽ —— 8	11 17¼	N 53 25 W	8	26 12	59 44	121 20	Gregory's Compass — Capt Cook
	9 54½	N 63 40 W	5	28 25			Knight's ditto
☿ —— 10	10 29½	S 88 26½ E.	8	11 39½			
	12 16¼	S 89 37½ E	4	13 38½	57 52½	130 2	Mr Pickersgill
	14 12½	S 92 52 E	5	13 29			
♃ —— 11	10 45	N 86 32 1/7 E	7	8 24			Greg Comp Ship's head N
	14 16	N 83 36½ E	3	11 46			Knight's ditto Ship's head S
	14 58 1/7	N 82 30 1/7 E	7	11 57½	58 55½	131 38	Gregory's ditto Ship's head south'y
	17 40	N 71 40 E	2	6 18½			Ditto Ship's head northerly
	19 26½	N 79 50 E	3	9 4½			Knight's ditto Ship's head south'y
♄ —— 13	13 59	N 63 50 W	3	7 37			Ship's head S S E
	13 19	N 62 6½ W	3	10 35	58 44½	133 50	Ship's head N E
☽ —— 15	27 42¼	N 36 38¼ E	4	0 55½	58 52½	142 24	
	28 18½	N 36 0 E	6	2 29¼			Capt Cook
				East			
♂ —— 16	11 40¼	N 78 30 W	4	0 27	58 53	143 55	Capt Cook
♃ —— 18	14 34	N 81 46½ W	9	14 12	56 7½		Ditto
	10 7	S 91 0 W	3	13 4½	56 6	150 10	Mr Gilbert.
	9 34½	S 85 53¼ W	4	17 19	56 3½		Capt. Cook.
	8 17	S 86 50 W	1	14 21½	56 3		Ditto
♄ —— 20	14 29 3/10	N 83 33½ W	5	13 41	52 48	154 56	Mr Gilbert

1773.	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s center. ° ′		No. of Obs.	Variation East. ° ′	Latitude South. ° ′	Longitude East. ° ′	Observers and Remarks.
♄ March 20.	13 24 1/10	N. 84 14	W.	5	12 43	52 47½	154 56	
	12 20½	N. 87 56	W.	5	14 52	52 47		Mr. Pickersgill.
☽ —— 22.	16 58½	N. 81 3½	W.	3	13 32	49 28½	169 38	Mr. Gilbert.
	14 19⅚	N. 85 45½	W.	3	14 37			Ditto.
	12 35¼	N. 87 56½	W.	4	14 31			
	11 10 1/10	N. 88 29	W.	5	13 14			Mr. Clerke.
♂ —— 23.	15 10½	N. 83 3½	W.	3	12 19½	47 29	161 54	Mr. Gilbert.
	12 49	N. 87 32¼	W.	6	13 54	47 28		
☿ —— 24.	18 53½	N. 78 18¼	W.	4	12 7	46 29½	163 55	Mr. Gilbert.
	17 58¼	N. 78 48	W.	5	11 26	46 23½		
☽ June 14.	12 21¼	N. 22 36⅓	E.	3	11 43	46 41½	185 50	
♂ —— 15.	8 45 1/11	N. 52 27½	W.	7	11 10	46 52¼	186 4	
♂ —— 22.	9 44½	N. 51 25	W.	6	9 3¼	44 37½	196 30	Ship's head East.
☿ —— 23.	8 34⅔	N. 55 35	W.	7	11 21	44 37½	197 53	Ditto, South.
☽ —— 28.	4 7¼	N. 45 50	E.	1		42 37½	198 39	
	12 51⅔	N. 32 18½	E.	3	7 54⅔	42 39½	198 42½	
♂ —— 29.	3 46⅓	N. 45 19	E.	5	7 40	43 5	199 40	
	11 14	N. 33 41	E.	5	8 45	43 5½	199 45	
♃ July 1.	11 51⅓	N. 48 25	W.	5	6 55	43 7½	201 58½	
	6 25	N. 40 44⅙	E.	6	6 59¼	43 2½	203 8	
♀ —— 2.	7 57	N. 55 45	W.	6	5 59	43 2½	203 20	
	10 33⅓	N. 36 28	E.	5	7 10½	43 14	204 23	
♄ —— 3.	8 27⅓	N. 54 58	W.	5	8 13	43 22½	204 58	
♀ —— 9.	8 47⅚	N. 44 27½	E.	9	2 47¼ :	43 27½	215 20	
♄ —— 10.	15 41½	N. 31 43⅓	E.	7	4 5	43 33½	217 50	
☉ —— 11.	11 41¼	N. 48 44	W.	5	5 35¼	43 33½	218 30	
	12 41	N. 36 30⅔	E.	7	5 35	43 17⅔	219 26	
☽ —— 12.	8 14	N. 53 59⅚	W.	6	5 4	43 14½	219 57	
♄ —— 17.	8 4½	N. 48 40	E.	7	6 16	38 4½	226 32	
☉ —— 18.	11 17 1/10	N. 56 43½	W.	7	5 5	37 49	226 46	
☽ —— 19.	9 36⅓	N. 65 22½	W.	7	5 33¼	36 25½	227 5	
	14 53⅔	N. 43 54	E.	5	6 5½	35 35	226 57	
☿ —— 21.	15 23⅞	N. 48 56⅓	E.	3	4 51 : :	31 18½	225 40	
♃ —— 22.	12 55½	N. 61 50	W.	6	5 21½	30 47½	225 31	
	8 40⅓	N. 55 11½	W.	7	5 34	29 34	225 6	
☽ —— 26.	10 17½	N. 66 20	W.	5	5 24⅓	28 43	224 41	
	10 43 1/10	N. 56 7	E.	5	4 59⅓	28 1	224 55	
♂ —— 27.	11 1⅞	N. 55 0	E.	4	6 18½	27 43	224 41	
☉ Aug. 1.	11 15⅔	N. 59 22	E.	7	5 16⅓	23 25	226 3	
☽ —— 2.	8 43½	N. 62 18	E.	5	4 26	22 22	226 15	
♂ —— 3.	12 7⅙	N. 70 12	W.	5	5 1½	22 0	226 10	
☿ —— 4.	13 46⅔	N. 70 6	W.	5	5 10	21 12	226 30	
♂ —— 10.	13 53¼	N. 62 6⅓	E.	3	6 30	17 17⅓	218 15	
♃ —— 12.	16 6⅔	N. 61 35⅓	E.	7	6 45	17 16¼	215 24	
♄ —— 14.	10 57	N. 63 41	E.	5	7 24	17 42¼	211 50	Mr. Gilbert.
♂ —— 24.	9 17⅓	N. 69 27	E.	5	5 54½	17 29	210 40	

1773	Altitude of the ☉'s L. L. ° '	Magnetic Azimuth of the ☉'s center	No. of Co.	Variation East	Latitude South °	Longitude East °	Observers and Remarks
☉ Sept 5	8 38 1/6	N 85 2 W	5	4 51 1/2	16 44¼	208 52 1/2	Knight's compass
	6 33 1/2	N 85 40 W	3	4 50	16 44¼	208 52 1/2	Gregory's ditto
♄ —— 18	7 54 1/3	N 77 00 E	5	8 26¼	17 34	206 10	Mr Gilbert.
☉ —— 19	14 4	S 87 36 W	5	8 36½	} 17 47	205 20	Ditto.
	12 11 1/2	S 87 15 W	5	8 18			
♂ —— 21	19 16 1/2	S 88 12 W	5	9 18	18 28 1/2	} 203 47	Mr Gilbert
	8 34 8/10	S 84 33 W	5	9 6 1/2	18 29 1/2		
	15 17 1/2	N 75 39 E	5	8 34½	18 36	} 203 15	
	17 5	N 75 36 E	5	7 58	18 36 1/2		Mr Gilbert.
☉ —— 26	12 14	N 75 17 E	5	11 42	20 36	194 36	
☽ —— 27	17 45 1/3	N, 74 23 E	5	9 44	20 58 1/2	192 5	
☿ —— 29	4 6 1/2	S. 78 11 W	5	10 42¼	21 26 1/2	189 38	Mr Gilbert.
	Time by Watch K H ' "						
☉ Oct 3	7 5 16	N 76 32½ E	7	10 28	21 4¼	185 3¼	
	Alt. ☉'s L L						
♃ —— 7	14 27 1/2	S 78 50 W	5	10 44	21 10	185 2	
	19 35 1/3	N 76 47 1/8 E.	7	11 35	21 56	184 45	
♀ —— 8	13 47¼	S 79 27 W	5	9 50¼	22 6¼	184 40	
☿ —— 13	16 20 1/2	N 78 56 1/2 E	8	10 39	} 28 27		
	17 29 1/2	N 79 7 E	5	10 39		180 13	Mr Pickersgill.
♃ —— 14	10 24⅛	N 82 31 E	5	11 34 1/2	29 47	179 56	Mr Gilbert
♀ —— 15	12 39 1/2	S 76 33 1/7 W	7	10 52	30 36	179 57	
	11 27¼	N 82 56 1/2 E	6	10 26 1/2	} 31 16¼	179 56	Mr Clerke.
	12 36 8/10	N 81 12 E	5	11 28			
♄ —— 16	17 4⅛	S 79 18½ W	6	10 43 1/2	} 32 0 1/10	179 55	Mr Clerke.
	15 29 1/3	S 77 13 W	5	11 48¼			
☉ —— 17	6 30 1/3	S 71 31 1/2 W	6	10 33	32 52½	179 56	Mr Gilbert.
	12 51 9/10	N 82 0 E	6	11 0	33 24	180 12	
☿ —— 20	14 14¼	N 76 59¼ E	6	15 12	38 54½	179 12	Mr Gilbert.
♄ Nov 27	13 34½	S 59 37 1/2 W	5	13 57 1/2	} 44 3	176 5	Capt Cook.
	11 32	S 59 48 W	5	11 51			Ditto
☉ —— 28	15 15⅙	S. 61 0 W	5	13 56	44 28	176 45	
♄ Dec 4	11 39 1/2	S 86 58 E	6	17 51 1/2	50 4⅓	179 59	
☉ —— 5	21 47⅓	S. 62 35 W	6	18 16 1/2	50 18 1/2	179 44	
♂ —— 7	23 20¼	S 66 36 W	5	19 27	53 45	} 180 43	Mr Pickersgill — Uncertain because of ship's motion.
	22 0	S 67 12 1/2 W	6	15 19	53 46		Mr Gilbert
♄ —— 11	28 2⅓	S 78 0 1/2 W	10	15 4½	61 13 1/2	187 45	
☉ —— 12	12 34 1/2	S 46 39 W	5	16 49 1/2	63 10 1/2	} 190 55	Mr Pickersgill.
	12 1 9/10	S. 44 49⅛ W	6	17 30	63 10¼		
♄ —— 18				20 18	64 26	209 13	Log Book
☉ —— 19	23 54¼	S 73 38 1/2 W	10	12 8	64 53⅓	211 45	
♀ —— 24	24 37 1/3	S 69 21 W	10	18 46	} 67 4	} 223 20	Gregory's compass.
	23 10 9/10	S. 69 13 W	10	25 32			Knight's ditto

1773.	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s center. ° ′	No. of Obs.	Variation Eaft. ° ′	Latitude South. ° ′	Longitude Eaft. ° ′	Obfervers and Remarks.
☉ Dec. 26.	22 41 1/10	S. 67 53 5/7 W.	6	15 40	66 5	226 30	Gregory's compafs.
	22 7 1/2	S. 66 15 5/6 W.	6	15 40	66 5	226 30	Knight's ditto.
☿ —— 29.	21 23 2/7	S. 66 17 W.	10	14 29	62 8	225 58	Ditto.
♃ —— 30.	19 45 1/7	S. 64 16 1/2 W.	10	13 43 1/4	61 7	225 22	Ditto: cloudy.
♀ —— 31.	19 27 1/6	S. 71 23 1/2 W.	10		59 38	225 14	Ship's head E. } Knight's
	8 33 2/7	S. 46 19 1/2 W.	10	12 2 1/2	59 36 1/2		Ditto, N. W. } compafs.
1774. ♄ Jan. 1.	15 41 1/2	S. 57 30 1/2 W.	10	14 4	58 47	224 3	Ship's head, N.W. K's comp.
	15 21 1/3	S. 84 26 E.	10	13 27	58 4	223 22	Knight's compafs.
♃ —— 6.	18 14 1/4	S. 69 35 W.	4	7 7 1/2	51 40	225 6	Cloudy, and much motion.
♀ —— 7.	13 28 2/7	S. 64 39 5/6 W.	8	6 32	50 17	227 20	
	12 59 5/7	S. 77 18 E.	5	6 26	49 37	229 50	Mr. Clerke.
♂ —— 11.	13 41 9/10	S. 69 54 2/7 W.	9	2 41	48 21 1/4	238 30	} Knight's compafs.
	28 36 1/10	S. 91 0 E.	10	1 35	49 11 2/7	239 53	
☿ —— 12.	15 12 1/7	S. 69 48 1/4 W.	8	4 37 1/4	50 7	240 35	Gregory's ditto.
	13 5 1/8	S. 67 3 1/3 W.	6	4 54 2/7			Knight's ditto.
☉ —— 16.	12 13 1/10	S. 61 2 1/2 W.	6	9 23 1/2	56 57	240 47	Gregory's ditto.
	10 53 1/7	S. 59 30 W.	8	8 49			Knight's ditto.
☿ —— 19.	18 38 3/8	S. 92 32 1/2 E.	6	10 26 1/2	62 28	244 0	Gregory's ditto.
♄ —— 22.	23 16 1/5	S. 82 1 1/2 W.	10	9 48	62 4 1/4	248 1	
☽ —— 24.	34 40 1/5	N. 40 31 7/8 E.	8	15 48 5/6	65 15 5/8	250 55	Ship's head, S.S.E. } Capt. Cook.
	35 33 1/7	N. 28 5 5/7 E.	8	25 27 1/4	65 16		Ditto, S. W. by W.
	36 26 1/4	N. 31 0 E.	4	19 38	65 16		Ditto, S. S. E.
♂ —— 25.	14 12 1/2	S. 56 7 1/2 W.	6	19 26 1/2	65 45	250 45	Capt. Cook.
	21 33 1/8	N. 69 11 1/6 E.	8	18 22	66 19	250 40	Ditto.
♀ —— 28.	9 44 4/7	S. 87 23 4/7 E.	7	23 11	69 30 2/3	251 57	Mr. Clerke.
	27 11 3/8	S. 44 37 5/8 E.	9	22 11 1/2	69 43	252 16	Capt. Cook.
♄ —— 29	19 42 3/5	S. 67 21 7/8 W.	8	24 46	70 20	253 3	
	19 13 1/2	S. 66 12 W.	5	24 32			Mr. Clerke.
☽ —— 31.	22 10 1/5	N. 51 57 E.	5	28 32	68 13	255 15	Ditto.
♃ Feb. 3.	19 33 3/8	S. 70 38 1/2 W.	10	23 1 1/4	66 16 1/4	258 45	Gregory's compafs.
	17 13 1/5	S. 64 45 1/2 W.	10	23 34			Knight's ditto.
	21 59 1/5	N. 57 10 1/6 E.	6	23 25 2/7	65 47 1/4	260 24	Mr. Clerke.
	24 22 2/7	N. 50 9 E.	5	24 47 1/3	65 47 1/4		Capt. Cook.
♀ —— 4	19 58 1/7	S. 67 31 W.	5	27 7 2/7 :	65 34	260 14	Ditto.
♄ —— 5	15 32 1/2	S. 66 51 2/7 W.	6	18 49 1/3	63 57 2/7	260 8	
	14 41 1/3	S. 64 35 W.	5	19 22 2/7	63 57 1/5		Mr. Pickerfgill.
♃ —— 10.	18 53 2/7	S. 75 45 W.	5	15 32	53 7	262 50	Mr. Clerke.
	18 10	S. 75 13 W.	5	15 5			
♄ —— 12.	5 2 1/2	S. 60 43 1/3 W.	6	13 55 2/7	50 11	264 35	
☉ —— 13	16 34 1/3	S. 74 23 1/2 W.	10	14 40	50 30 1/4	263 36	
☽ —— 14.	15 40 1/4	S. 75 46 7/8 W.	8	12 31 1/4	49 28	264 4	
	14 6 1/7	S. 73 31 1/7 W.	7	12 58			Mr. Pickerfgill.
♀ —— 18.	14 30 2/7	S. 74 28 1/3 W.	6	13 16 ::	43 40 2/3	265 45	Great motion.
♄ —— 19.	14 14 1/10	S. 77 32 1/4 W.	9	10 5 1/5	41 41	265 3	Gregory's compafs.
☉ —— 20.	14 33 2/7	S. 80 28 1/2 W.	10	7 21 1/5	39 32	266 0	Knight's ditto.

1774.	Altitude of the ☉'s L. L. ° '	Magnetic Azimuth of the ☉'s Center ° '	No. of Az.	Variation East ° '	Latitude South ° '	Longitude East ° '	Obſervers, and Remarks
☉ Feb. 20	13 23½	N 85 41 E	11	8 3	38 22	266 18	Gregory's Compaſs
☽ —— 21	22 41½	N 78 23½ E	6	7 41	36 24	265 54	Ditto
☿ —— 23	15 15½	S 79 13½ W	6	9 51½	36 49	263 9	Ditto
	16 54½	N 80 32 E	10	8 8	37 16	262 5	Knight's Compaſs
♀ —— 25	13 18	S 81 51 W	10	6 50	37 44	259 21	Ditto
☉ —— 27	11 24½	S 83 33 W	10	4 9	34 31½	257 57	Gregory's Compaſs
☽ —— 28	20 3½	N 83 8½ E	9	3 15	32 27½	257 25	
♂ March 1	12 12½	S 84 18½ W	10	4 23	32 6	257 30	Gregory's Compaſs
	16 5½	N 83 21½ E	8	5 4	31 25	257 42	Knight's ditto
☿ —— 2	14 36½	S 85 19 W	10	5 2½	31 5	257 52	Ditto
♃ —— 3	9 23½	S 83 8½ W	8	4 26½	30 25½	258 45	Gregory's Compaſs
	12 46	N 84 56½ E	10	5 13	30 8	259 3	Knight's ditto
♀ —— 4	12 19½	S 83 58½ W	6	5 40	29 51½	259 16	Ditto
	12 26½	N 83 11½ E	9	6 53	29 46	259 27	Ditto
♄ —— 5	11 49½	S 84 19½ W	8	5 26½	29 42	259 24	Gregory's Compaſs
☉ —— 6	9 44	S 84 36 W	10	4 11	29 11	258 48	Knight's ditto
☽ —— 7	12 15½	N 84 51½ E	10	4 31	28 2	256 26	
☿ —— 16	10 46½	S 89 6½ W	13	4 30½	27 7	250 7	Off Eaſter Iſland
	15 30½	N 80 4½ E	8	3 32½	26 56	249 50	
♃ —— 17	8 25½	N 83 46 E	10	3 15	26 16½	248 50	
♀ —— 18	4 40½	S 88 39½ W	7	2 47	25 54	248 35	
	11 50½	N 81 21½ E	8	3 41	25 36	248 20	
♄ —— 19	9 57½	S 90 31½ W	6	3 29	24 32½	248 7	
	14 36½	N 80 44½ E	6	3 5½	23 26½	247 40	
♃ —— 24	14 55½	N 85 39½ W	6	1 52	16 54½	243 10	
♀ —— 25	9 52½	N 82 28½ E	10	2 31½	15 6	241 0	
♄ —— 26	9 33½	N 87 50½ W	9	2 38	14 26½	240 18	
	17 37	N 80 35½ E	10	2 23½	13 31	239 20	
☉ —— 27	9 30½	N 87 10 W	5	2 10	12 55	238 45	
	10 52½	N 82 29½ E	8	2 13	12 3½	237 45	
☽ —— 28	9 30½	N 87 28 W	8	2 31	11 30	237 10	
	11 36½	N 82 10 E	10	2 17	10 39½	236 20	
♂ —— 29	10 35½	N 87 38½ W	10	3 3	10 10	235 40	
	16 54½	N 80 30 E	6	2 43½	9 34½	233 20	
☿ —— 30	9 28½	N 81 6 E	10	3 14	9 18½	232 8	
♃ —— 31	9 8½	N 79 55 E	10	4 3	9 27	230 14	
♀ April 1	9 58½	N 79 29½ E	10	3 56	9 28½	228 26	
♄ —— 2	9 31½	N 78 5½ E	10	3 58½	9 32½	226 44	
☉ —— 3	12 22½	N 77 52 E	10	4 15	9 32½	224 58	
☽ —— 4	14 29½	N 76 50 E	7	4 27	9 33½	223 20	Cloudy
♂ —— 5	9 33½	N 77 42½ E	10	4 13½	9 21	222 2	
☿ —— 6	8 55½	N 76 4 E	10	5 33½	9 36½	221 10	
♄ —— 9	12 14½	N 81 23½ W	6	1 28	9 55½	220 51½	At anchor in Reſolution Bay,

in the iſland Ohitahoo, one of the Marqueſas. I can aſſign no reaſon for the ſmallneſs of the preceding variation, if it was not occaſioned by drawing the binnacle a little towards the larboard ſide of the ſhip, to have the ſun clear of ſome plantains which were hung up aft.

1774.	Altitude of the ☉'s L. L. ° '	Magnetic Azimuth of the ☉'s Center. ° '	No. of Obs.	Variation East. ° '	Latitude South. ° '	Longitude East. ° '	Observers, and Remarks.
♂ April 12.	15 23⅕	N. 82 26¼ W.	8	4 22¼	9 50	220 48	
	11 50⅗	N. 72 59¼ E.	10	5 28⅕	10 30	220 8	
☿ —— 13.	6 46¼	N. 74 0⅕ E.	8	5 1⅒	11 52	219 10	
♃ —— 14.	9 13	N. 84 3¼ W.	10	6 3⅕	12 42	218 37	
	12 24⅓	N. 70 56⅖ E.	6	5 51⅓	13 20	217 48	
♀ —— 15.	13 50	N. 69 31¼ E.	10	6 9	14 17½	216 36	
♄ —— 16.	15 30⅘	N. 68 44¼ E.	10	5 55	14 29	215 22	
☉ —— 17.	10 3⅙	N. 70 58¼ E.	10	5 5	14 34½	214 45	
☽ —— 18.	5 30⅓	N. 69 22½ E.	6	7 33::	15 33	213 43	
☿ —— 20.	8 41¼	N. 67 54¼ E.	10	6 51⅕	17 12½	211 18	
♄ May 21.	7 25¼	N. 71 58⅓ W.	6	5 44½	16 42⅗	208 50⅖	In Owharre harbour, Huaheine. The two first were taken on board the ship, the two latter on shore. I used the same compass, but two different cards.
	6 0⅚	N. 71 39⅙ W.	6	4 53	16 41⅘	208 50⅖	
☉ —— 22.	9 54⅚	N. 70 29⅙ W.	6	5 28½	16 42⅗	208 50⅖	
	7 35⅙	N. 71 14⅙ W.	6	5 16⅖	16 42⅗	208 50⅓	
☉ —— 29.	11 63⅗	N. 68 55⅛ W.	6	6 9⅙	16 45⅗	208 23¼	Taken on board the ship in Ohamaneno harbour, Ulietea. I used the same compass-box in every one, but two different cards.
	10 18¼	N. 69 11⅖ W.	6	5 43⅓	16 45⅗	208 23¼	
☽ —— 30.	5 53¼	N. 71 24⅙ W.	6	6 17⅓	16 45⅗	208 23¼	
	4 59⅖	N. 71 59⅙ W.	6	6 31⅖	16 45⅗	108 23¼	
♂ —— 31.	9 55⅓	N. 69 21⅖ W.	6	6 2⅖	16 45⅗	208 23¼	
	8 31⅖	N. 69 34⅙ W.	6	5 40⅙	16 45⅗	208 23¼	
☿ June 1	15 25⅒	N. 67 6⅖ W.	6	6 30⅖	16 45⅗	208 23¼	On shore in Ohamaneno harbour.
	13 13⅒	N. 67 58⅓ W.	6	6 17⅚	16 45⅗	208 23¼	
☉ —— 5.	17 46⅕	N. 52 53 E.	10	6 0	16 49½	206 30	Cloudy, and uncertain.
☿ —— 8.	7 13¼	N. 71 6⅕ W.	9	7 55⅓	17 33	204 4	
	8 55	N. 64 5⅗ E.	8	8 16	17 37½	203 48	
♃ —— 9.	9 12¼	N. 70 14 W.	10	8 3⅖	17 40	203 22	
♀ —— 10.	7 12⅒	N. 71 38¼ W.	10	8 43	17 48⅓	202 50	
	11 8	N. 52 15 E.	8	8 49	17 51	202 35	
☽ —— 13.	6 43	N. 53 21¼ E.	10	9 15½	18 40⅓	197 37	
♂ —— 14.	6 35⅘	N. 71 10 W.	10	8 29½	18 34⅖	197 23	
	5 51⅓	N. 54 40 E.	10	8 19	18 32	197 24	
☿ —— 15.	7 57 9/10	N. 71 27⅘ W.	5	9 24	18 25	197 10	
	7 43 9/10	N. 62 54 E.	10	9 16½	18 21	196 54	
♃ —— 16.	8 31¼	N. 51 51¼ E.	10	10 1	18 0⅓	196 0	
♀ —— 17.	7 44 9/10	N. 51 42⅕ E.	10	10 23	18 16	194 31	
♄ —— 18.	8 25 9/10	N. 51 17⅕ E.	10	10 26½	18 22¼	193 4	
☽ —— 20.	12 28	N. 49 51 E.	10	9 38	18 54¼	190 40	
♂ —— 21.	4 12	N. 74 56⅕ W.	10	11 25	19 3⅖	190 20	
	11 11¼	N. 49 9⅕ E.	10	10 48½	19 20	189 56	
☿ —— 22.	14 0¼	N. 69 30 W.	5	11 8⅖	19 27¼	189 36	
	8 22¼	N. 50 17¼ E.	9	10 59	19 43	188 39	
♃ —— 23.	8 19⅖	N. 49 24 E.	10	11 40½	20 24¼	186 52	Ship's head W. S. W.
♀ —— 24.	13 49¼	N. 48 43¼ E.	8	9 21¼	20 12	186 10	Ditto E. S. E.
♄ —— 25.	11 31⅕	N. 47 16¼ E.	8	12 6½	20 26⅚	185 42	Ditto W. S. W.

1774.		Altitude of the ☉'s L. L.	Magnetic Azimuth of the ☉'s Center				No. of Obs.	Variation East		Latitude South		Longitude East		Observers, and Remarks
										°	′	°	′	
☉	June 26	5 57 4/5	N	51 17		E	10	11	5¼	20	15	185	29¼	Ship's head E S E (At anchor off Anamocka, one of the Friendly Isles)
☽	—— 27	6 8 1/6	N	71 24 1/6		W	6	9	7¼	20	15	185	29¼	Ditto N E
		Amplit	N	74 [illegible]		W	1	9	18¼	20	15	185	29¼	Ditto N E
		Amplit	N	55 20		E	1	9	41¼	20	15	185	29¼	Ditto E N E
		11 17¼	N	50 11¼		E	10	9	29¼	20	15	185	29¼	Ditto E N E
♂	—— 28	7 38 1/7	N	71 35		E	8	9	59¼	20	15	185	29¼	Ditto E N E
☿	—— 29	7 42¼	N	73 26		W	10	11	49 1/7	20	10	185	25	Ship's head S S W
		18 5 1/7	N	44 39 3/7		E	8	11	8¼	20	1¼	184	40	Ditto N W
♄	July 2	10 23 1/7	N	47 56		E	10	12	47	19	45	182	13	
☉	—— 3	13 30 7/7	N	71 6¼		W	8	12	9	19	48¼	182	0	
		10 40 1/7	N	48 41 1/7		E	5	11	52 1/6	19	58	181	40	
☽	—— 4	3 51 1/7	N	76 9		W	10	12	17	20	10¼	181	20	
		Amplit	N	78 10		W	1	12	40	20	11	181	18	
		5 56¼	N	50 28¼		E	8	12	29¼	20	34 1/7	180	44	
♂	—— 5	10 2 1/7	N	48 0		E	3	12	44	20	52	179	34	
☿	—— 6	16 31 4/7	N	44 44		E	10	12	17¼	20	53 1/7	178	41	Mr Clerke
♃	—— 7	12 3 1/3	N	46 54 1/7		E	10	12	59	20	47¼	177	50	Cloudy
♀	—— 8	6 52 1/3	N	49 47 1/7		E	10	13	8	20	20	176	23	
☉	—— 10	6 5	N	74 45 1/7		W	7	11	1	19	30 1/7	175	08	Cloudy
		9 48 4/7	N	51 56 1/7		E	8	10	21 1/7	18	49 1/7	175	14	Ditto
☽	—— 11	10 3 1/10	N	52 19		E	10	10	28¼	17	38 1/8	174	29	
♂	—— 12	5 18 1/8	N	54 46 1/7		E	6	10	24 1/7	16	37	173	38	Gregory's Compass
		8 26 1/3	N	53 20		E	6	10	38¼					Knight's ditto
☿	—— 13	6 14 1/3	N	75 30 1/7		W	10	10	35	16	15¼	173	15	Gregory's ditto
		7 31¼	N	54 30 1/7		E	10	10	13¼	15	49	172	42	Knight's ditto
♃	—— 14	11 28 1/2	N	52 30		E	10	11	3¼	15	13¼	171	38	Ditto
♀	—— 22	23 33 3/8	N	49 20 1/8		E	6	9	16¼	16	24	167	53	Capt Cook Ship's Comp
☉	—— 24	15 5	N	51 49		E	10	11	24	17	6	168	36	
☽	—— 25	12 3 1/7	N	74 13		W	5	9	36 1/7	17	23	168	38	
		10 12	N	56 50 1/8		E	6	8	44 1/7	17	21 1/5	168	38	
♂	—— 26	14 15 1/7	N	54 25		E	10	9	18¼	17	52½	169	10	
☿	—— 27	13 5 1/6	N	73 20		W	5	9	2¼	18	12¼	169	30	
		6 14 1/7	N	55 19 1/8		E	6	12	6	18	25	169	47	
♃	—— 28	10 16½	N	77 59		W	10	12	12 3/7	18	24	169	46	Ship's head S W
		8 42 3/7	N	56 30		E	5	10	7¼	18	25¼	170	3	Knight's Comp Ship's head S E
		12 9 1/7	N	56 21		E	5	8	43	18	26¼			Ship's ditto Ship's h ditto
		13 14 1/10	N	55 46		E	5	8	47	18	26¼			Gregory's dit Ship's h ditto
♀	—— 29	10 28 1/3	N	78 13		W	10	12	19	18	34¼	170	3	Knight's dit Ship's h S W
♄	—— 30	10 21 3/7	N	78 6 7/7		W	8	12	20	18	30	169	42 3/7	Gregory's ditto Ship's h
		8 22 1/7	N	79 48¼		W	6	12	37¼	18	29¼			Knight's ditto S S W
		10 16	N	55 9 1/8		E	6	11	19¼	18	23¼	169	34	Gregory's ditto Ship's h
		12 49	N	55 50 3/8		E	6	9	38¼	18	23¼			Knight's ditto Easterly
☉	—— 31	9 45	N	78 16 1/7		W	6	11	2 1/7	18	24¼	169	32	Ditto Ship's head South
		8 34 1/6	N	78 45 3/8		W	6	11	26 1/7					Gregory's Comp
		Amplit.	N	81 45		W	1	11	3¼					Ditto
		18 5 1/5	N	50 44 1/6		E	6	12	11¼	18	24 2/7	169	15	Ship's head S W

1774.	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s Center. ° ′	No of Obs.	Variation East. ° ′	Latitude South. ° ′	Longitude East. ° ′	Observers, and Remarks.
☽ Aug. 1.	13 0$\frac{1}{10}$	N. 77 5$\frac{5}{6}$ W.	6	11 38$\frac{1}{4}$	18 47	169 10	
	15 59$\frac{1}{7}$	N. 53 8$\frac{1}{7}$ E.	6	11 6$\frac{1}{4}$	18 44	169 2	
♂ —— 2.	8 14$\frac{4}{7}$	N. 78 49$\frac{1}{7}$ W.	8	10 53$\frac{1}{7}$	18 42$\frac{1}{4}$	169 2	
	Amplit.	N. 61 45 E.	1	10 10$\frac{1}{4}$	18 36$\frac{1}{2}$		
	9 18$\frac{1}{10}$	N. 58 34$\frac{1}{4}$ E.	6	8 8	18 36	169 15	Knight's Compass. Ship's head E. S. E.
	10 22$\frac{1}{10}$	N. 58 25 E.	6	8 49$\frac{1}{7}$	18 36$\frac{1}{4}$		Gregory's ditto.
☿ —— 3.	5 11$\frac{1}{4}$	N. 61 11 E.	10	8 27	18 43	169 20$\frac{1}{4}$	
♃ —— 4.	7 13$\frac{1}{10}$	N. 58 37$\frac{1}{4}$ E.	6	10 18	19 26$\frac{1}{7}$	169 44	Knight's Comp. Ship's h. S. S. W.
	8 41$\frac{1}{4}$	N. 58 37$\frac{1}{4}$ E.	6	9 30$\frac{1}{6}$	19 26$\frac{1}{7}$	169 44	Ship's ditto.
☉ —— 21.	5 48$\frac{1}{6}$	N. 64 51$\frac{1}{4}$ E.	4	10 25$\frac{1}{4}$	18 39	168 55	Gregory's Compass.
	8 20$\frac{1}{7}$	N. 63 56$\frac{5}{7}$ E.	3	10 20$\frac{1}{6}$			Knight's ditto.
☽ —— 22.	9 37$\frac{1}{7}$	N. 64 28$\frac{1}{7}$ E.	8	10 9$\frac{1}{4}$	16 51	168 35	
♂ —— 23.	Amplit.	N. 88 20 W.	1		15 55	167 25	
♃ —— 25.	9 3	N. 64 54$\frac{5}{7}$ E	7	11 26$\frac{1}{4}$	15 6$\frac{1}{4}$	167 3	
♀ —— 26.	Ampl.	N. 69 15 E.	1		14 45	166 56	
	7 34$\frac{1}{7}$	N. 66 20$\frac{1}{7}$ E.	8	10 52	14 45	166 56	
♄ —— 27.	15 1	N. 62 58$\frac{1}{4}$ E.	8	12 14$\frac{1}{4}$	14 47$\frac{1}{7}$	166 35	
☉ —— 28.	10 22$\frac{1}{4}$	N. 86 9$\frac{1}{4}$ W.	6	9 15	14 48$\frac{5}{7}$	166 37	
	15 23$\frac{1}{7}$	N. 64 5$\frac{1}{6}$ E.	6	11 19$\frac{1}{6}$	14 57$\frac{1}{6}$	166 34	Ship's Compass.
♂ —— 30.	9 49$\frac{1}{7}$	N. 86 26$\frac{1}{4}$ W.	4	8 47$\frac{1}{4}$	15 23$\frac{1}{7}$	166 35	Ditto.
	6 6$\frac{1}{7}$	N. 88 5 W.	3	9 12$\frac{1}{7}$			Knight's Compass.
♃ Sept. 1.	8 8$\frac{1}{6}$	N. 70 5$\frac{5}{7}$ E.	6	8 38$\frac{1}{4}$	17 46	165 28	Cloudy.
♀ —— 2.	15 37$\frac{1}{7}$	N. 85 51$\frac{1}{7}$ W.	8	10 1$\frac{1}{6}$	18 21	165 22	
♄ —— 3.	6 10$\frac{1}{4}$	N. 89 6$\frac{1}{4}$ W.	10	9 23	19 14$\frac{1}{7}$	164 50	Gregory's Compass.
	8 33$\frac{9}{10}$	N. 69 10 E.	6	9 44$\frac{5}{7}$			Ditto.
	10 46$\frac{1}{10}$	N. 67 35$\frac{1}{6}$ E.	6	10 25$\frac{1}{4}$	19 50	164 44	Knight's Compass.
☿ —— 7.	7 2$\frac{1}{7}$	N. 73 3 E.	5	7 59$\frac{1}{4}$			Mr. Clerke. Gregory's Comp. Ship's head Easterly.
	8 5$\frac{1}{7}$	N. 72 22 E.	5	8 15			Gregory's Compass.
♃ —— 8.	6 0$\frac{1}{6}$	N. 73 46 E.	5	7 42$\frac{1}{7}$			Ditto.
	8 24$\frac{1}{7}$	N. 72 22 E	5	8 30$\frac{1}{4}$	20 18	164 40	Knight's Compass.
♀ —— 9.	10 31$\frac{1}{7}$	N. 71 3 E.	10	9 25			
☉ —— 11.	10 12$\frac{1}{4}$	N. 72 3 E.	10	9 22$\frac{1}{4}$			
☿ —— 14.	6 25$\frac{1}{4}$	N. 73 27$\frac{1}{4}$ E.	8	10 52$\frac{1}{4}$	19 10	164 0	
♃ —— 15.	11 38$\frac{1}{7}$	N. 88 26$\frac{5}{7}$ W.	6	9 1$\frac{1}{7}$	19 16$\frac{5}{7}$	164 6	Gregory's Compass.
	9 41$\frac{1}{10}$	N. 72 31$\frac{1}{7}$ E.	6	11 6	19 33$\frac{1}{7}$		Knight's ditto.
	10 56$\frac{1}{7}$	N. 72 47$\frac{1}{2}$ E.	6	10 11$\frac{1}{4}$	19 33	164 17	Capt. Cook. Ship's Comp.
	12 14$\frac{1}{10}$	N. 72 26$\frac{5}{7}$ E	6	10 2$\frac{1}{7}$	19 33		Ditto. Gregory's ditto.
♀ —— 16.	15 53$\frac{1}{7}$	N. 89 25 W.	8	9 22$\frac{1}{4}$	19 34	164 23	
♄ —— 17.	16 20$\frac{1}{4}$	N. 72 17$\frac{1}{4}$ E.	2		20 2	164 58	Ship's Compass.
☽ —— 19.	11 49$\frac{1}{7}$	N. 73 15 E.	6	10 52			Knight's ditto.
	13 14$\frac{1}{7}$	N. 73 29$\frac{1}{6}$ E.	6	10 3$\frac{1}{7}$	20 25	165 50	Ship's ditto.
	14 5$\frac{1}{4}$	N. 71 51$\frac{1}{7}$ E.	6	10 2			Gregory's ditto.
♂ —— 20.	14 10$\frac{1}{7}$	S. 86 46$\frac{5}{7}$ W.	6	10 0$\frac{1}{7}$			Ship's ditto.
	12 44$\frac{1}{7}$	S. 85 30$\frac{1}{7}$ W.	6	10 40$\frac{1}{7}$	20 52	165 50	Knight's ditto.
	11 26$\frac{1}{7}$	S. 85 46$\frac{1}{7}$ W.	6	9 53			Gregory's ditto.
	9 55$\frac{9}{10}$	N. 75 7$\frac{1}{10}$ E.	6	10 12	20 52	166 8	

1774.	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s center	°	′		No. of Obs.	Variation East °	′	Latitude South °	′	Longitude East °	′	Observers and Remarks.	
☿ Sept. 21.	5 47	S	83	4⅙	W	6	9	58	20	57¼	166	10		
	Amplit	N	81	30	E.	1			21	12¼	166	42		
	9 33⅔	N	77	49⅙	E	6	7	52⅘	21	12⅕			Gregory's Compass	
♃ —— 22	10 47½	S	85	31	W	5	9	12					Ship's ditto	
	9 51¼	S	85	47	W	5	8	22½	21	37⅙	166	50	Gregory's ditto	
	11 2	N	76	23½	E	6	9	0	21	49½	167	2		
♀ —— 23	11 39⅞	N	73	58½	E.	6	11	32¼	21	57	167	28		
☉ —— 25	11 9$\frac{9}{10}$	N	77	21½	E	6	9	11½					Ship's Compass	
	12 41½	N	77	8½	E	6	8	45½	22	9½	167	28	Knight's ditto	
♃ —— 29	7 56$\frac{1}{10}$	N	80	55	E	6	8	34					Ship's ditto	
	9 15¼	N	80	21	E	5	8	39	22	28¼	167	17	Knight's ditto	
♀ —— 30	10 24½	S	81	7½	W	7	10	12¼					Ship's ditto	By Capt
	9 14⅙	S	80	38½	W	6	10	11½	22	41	167	25	Gregory's ditto	Cook
	7 53½	S	78	57¼	W	6	11	19⅙					Knight's ditto.	
☉ Oct. 2	11 1¼	S	81	0⅕	W	6	9	52¼					Ditto	
	8 47$\frac{1}{10}$	S	80	51½	W	3	9	2	23	19½	169	40	Gregory's Compass	
☽ —— 3	10 30½	N	80	36½	E	6	9	19½					Ditto	
	12 52¼	N	78	49⅙	E	6	9	43⅙	25	13	171	8	Knight's Compass	
♂ —— 4	8 29⅕	S	78	48½	W	6	10	29	25	46⅔	171	21½	Gregory's ditto	
	12 55½	N	77	15	E	6	11	22½	26	33⅔	171	35	Knight's ditto	
☿ —— 5	11 55⅗	N	75	7¼	E	6	14	10					Ditto	
	13 18¼	N	75	35⅙	E.	6	12	58	27	54	171	47	Gregory's Compass	
	14 46	N	74	5	E.	6	13	40½					Knight's ditto	
♃ —— 6	10 44⅔	S	80	6	W	5	9	50					Ditto,	Ship's h.
	8 46¼	S	78	21	W	5	10	26½	27	52	171	45	Gregory's Comp	S E
	15 0¼	N	76	48½	E	8	11	17⅕	27	52½	171	45	Ditto Ship's head N W	
♀ —— 7	9 13¼	N	77	40⅕	E.	6	13	53					Knight's Compass	
	10 17$\frac{9}{10}$	N	77	9½	E	6	13	54	28	16½	170	45	Ditto.	
	12 35⅕	N	76	55⅕	E	6	12	47½					Gregory's Compass	
♄ —— 8	4 58½	S.	73	47	W	5	12	11					Ditto	
	4 15$\frac{9}{10}$	S	72	18	W	5	13	16½	28	37⅓	170	19	Ship's Compass	
	3 16½	S	71	6½	W	6	13	54					Knight's ditto	
☽ —— 10	13 18	N	79	0⅕	E	6	11	28¼					Ship's ditto	
	14 59½	N	78	6½	E	6	11	25½	29	5½	168	10	Knight's ditto	
	16 34	N	78	25	E	6	10	15½					Gregory's ditto	
♂ —— 11	13 39½	S	78	20	W	6	11	19					Ship's ditto	
	12 3¼	S	77	53½	W	6	10	51⅓	29	37	168	2	Knight's ditto	
	10 34⅕	S,	78	7¼	W	6	9	47½					Gregory's ditto	
	14 24½	N	79	1¼	E	8	10	54¼	30	35½	167	51	Knight's ditto	
☿ —— 12	21 41	N	76	9⅙	E	6	8	53	32	39	168	10	Gregory's ditto	
♃ —— 13	12 20⅓	S	80	15	W,	7	8	29	33	10½	168	36	Ditto	
	17 37¼	N	79	3½	E	6	8	47⅔	33	43	169	9	Ditto	
♀ —— 14	11 24⅓	S,	77	25⅗	W	6	10	29⅙	34	35⅔	169	45	Knight's Compass	
	15 41¼	N	78	53½	E	8	10	18⅙	35	18⅓	170	34	Ditto.	
♀ Nov 11	20 40½	N	81	26	E,	5	13	15½	42	54⅙	175	30		
♄ —— 12	9 23$\frac{1}{10}$	S	62	14⅙	W	6	11	37½	43	34	176	58		

1774.	Altitude of the ☉'s L. L. ° ′	Magnetic Azimuth of the ☉'s center. ° ′	No. of Obs.	Variation East. ° ′	Latitude South. ° ′	Longitude East. ° ′	Observers, and Remarks.
♄ Nov. 12.	20 $24\frac{7}{8}$	N. 81 55 E.	6	13 $26\frac{1}{5}$	44 7	176 53	
☽ —— 14.	23 $46\frac{1}{5}$	N. 78 39 E.	5	12 51	47 33	180 50	
♂ —— 15.	12 $53\frac{7}{8}$	S. 63 56 W.	5	12 42	48 $6\frac{1}{4}$	181 23	
☿ —— 16.	13 $19\frac{7}{8}$	S. 64 $13\frac{1}{4}$ W.	4	12 28	49 59	183 38	Very cloudy.
♃ —— 17.	21 $32\frac{1}{4}$	N. 82 $38\frac{1}{6}$ E.	8	10 $54\frac{1}{4}$	52 $31\frac{1}{4}$	188 31	Mr. Gilbert.
♂ —— 22.	22 $56\frac{1}{6}$	N. 82 55 E.	5	9 35	55 $42\frac{2}{3}$	204 34	Gregory's compass: cloudy.
☿ —— 23.	20 $24\frac{1}{5}$	S. 74 $52\frac{1}{4}$ W.	12	8 $49\frac{1}{4}$	55 $42\frac{1}{4}$	204 40	
♀ —— 25.	10 $4\frac{1}{3}$	S. 61 $5\frac{1}{3}$ W.	6	7 $1\frac{1}{4}$	56 7	213 0	
♃ Dec. 1.	24 $27\frac{2}{3}$	S. 87 $55\frac{1}{6}$ E.	6	1 20	55 12	237 0	Gregory's compass: cloudy,
♄ —— 3.	22 $18\frac{1}{4}$	S. 85 $54\frac{1}{6}$ E.	12	3 18	53 21	240 50	and a great sea.
☉ —— 4.	13 $23\frac{1}{3}$	S. 80 $13\frac{1}{3}$ W.	6	3 $35\frac{2}{3}$	53 $15\frac{1}{6}$	242 17	Gregory's compass.
	22 $6\frac{1}{5}$	S. 78 $59\frac{1}{6}$ W.	6	3 $13\frac{1}{3}$			Knight's ditto.
☽ —— 5.	18 $27\frac{1}{3}$	S. 74 $15\frac{1}{6}$ W.	10	3 $5\frac{2}{3}$	53 6	246 10	Mr. Gilbert: Greg. compass.
	16 43	S. 70 $32\frac{1}{5}$ W.	6	4 $26\frac{1}{6}$			Knight's compass.
♂ —— 6.	8 $24\frac{2}{3}$	S. 58 30 W.	8	4 58	53 13	250 5	Gregory's ditto.
	15 $55\frac{1}{4}$	S. 78 $45\frac{1}{4}$ E.	7	5 $7\frac{1}{6}$	53 $17\frac{1}{6}$	252 0	Ditto.
☉ —— 11.	24 $5\frac{1}{10}$	S. 73 $38\frac{1}{4}$ W.	8	9 $54\frac{1}{5}$	53 39	264 40	Ditto.
	20 $40\frac{1}{6}$	S. 67 35 W.	4	11 31			Knight's compass.
☽ —— 12.	15 $0\frac{1}{5}$	S. 60 $14\frac{1}{6}$ W.	6	11 $17\frac{2}{3}$	53 $21\frac{1}{6}$	268 24	Gregory's ditto.
	14 $6\frac{1}{4}$	S. 58 $30\frac{5}{6}$ W.	6	11 $48\frac{1}{5}$			Knight's ditto.
	16 $33\frac{1}{6}$	S. 86 $1\frac{1}{4}$ E.	8	12 31	53 $23\frac{2}{3}$	269 30	Gregory's ditto.
♂ —— 13.	9 $12\frac{1}{6}$	S. 49 $30\frac{1}{6}$ W.	6	13 $49\frac{1}{6}$	53 $23\frac{1}{6}$	270 30	Knight's ditto.
	8 $37\frac{1}{5}$	S. 49 $35\frac{1}{6}$ W.	6	12 $56\frac{5}{6}$			Mr. Pickersgill: G.'s ditto.
	14 $29\frac{1}{6}$	S. 84 $56\frac{2}{3}$ E.	6	14 $4\frac{1}{6}$	53 $24\frac{5}{6}$	272 28	Ditto.
	16 $42\frac{1}{3}$	S. 87 $20\frac{1}{6}$ E	6	13 $32\frac{1}{3}$			Gregory's compass.
☿ —— 14.	13 $35\frac{1}{4}$	S. 53 $11\frac{2}{3}$ W.	6	16 $11\frac{1}{5}$	53 $26\frac{1}{3}$	273 48	Knight's ditto.
	12 $8\frac{2}{3}$	S. 52 $47\frac{1}{5}$ W.	6	14 $35\frac{1}{5}$			Gregory's ditto.
♃ —— 15.	16 $16\frac{1}{5}$	S. 55 $14\frac{1}{6}$ W.	6	17 $37\frac{5}{6}$	53 $30\frac{1}{3}$	277 30	Knight's ditto.
♀ —— 16.	12 $29\frac{1}{3}$	S. 49 $17\frac{1}{5}$ W.	6	18 $24\frac{1}{4}$	53 $25\frac{1}{3}$	280 58	Mr. Gilbert: Greg. ditto.
	11 $4\frac{7}{8}$	S. 47 $34\frac{1}{6}$ W.	6	18 $15\frac{1}{6}$			Knight's ditto.
	13 $1\frac{2}{3}$	S. 86 38 E.	5	18 $16\frac{1}{4}$			
	19 $36\frac{2}{3}$	S. 94 $52\frac{1}{5}$ E.	(	17 $44\frac{1}{4}$	53 25	282 46	Mr. Pickersgill: with Gregory's compass.
	23 $59\frac{5}{6}$	S. 102 $30\frac{1}{6}$ E.	6	19 $40\frac{1}{6}$			
♄ —— 17.	16 $22\frac{1}{6}$	S 52 20 W.	6	20 31	53 $15\frac{1}{3}$	284 12	Mr. Gilbert: Greg. ditto.
	14 $58\frac{1}{4}$	S. 49 $46\frac{2}{3}$ W.	6	21 $13\frac{1}{3}$			Knight's ditto.
☉ —— 18.	16 $43\frac{1}{3}$	S. 52 $57\frac{1}{5}$ W.	6	20 $10\frac{1}{4}$			Ship's ditto.
	15 $50\frac{1}{5}$	S. 50 $49\frac{1}{6}$ W.	6	21 $5\frac{1}{6}$	54 $43\frac{2}{3}$	286 59	Knight's ditto.
	14 $58\frac{1}{6}$	S. 50 15 W.	6	20 $11\frac{2}{3}$			Gregory's ditto.
☽ —— 19.	17 $31\frac{2}{3}$	S. 51 45 W.	6	22 22	55 $31\frac{2}{3}$	289 20	Ship's ditto.
	16 $38\frac{1}{3}$	S. 60 $35\frac{5}{6}$ W.	6	22 $16\frac{1}{6}$			Knight's ditto.
♃ —— 29.	18 $45\frac{5}{6}$	S. 52 $44\frac{1}{6}$ W.	6	23 $28\frac{1}{3}$	55 20	293 55	Ship's ditto.
	17 $23\frac{1}{4}$	S. 49 $56\frac{1}{4}$ W.	4	24 $15\frac{1}{4}$			Knight's ditto.
♄ —— 31.	14 9	S. 41 $45\frac{5}{6}$ W.	6	25 $22\frac{2}{3}$			Ship's ditto.
	11 8	S. 39 $53\frac{1}{3}$ W.	6	25 46	54 41	295 46	Knight's ditto.
	25 $44\frac{2}{3}$	N. 68 $30\frac{1}{6}$ E.	6	25 $24\frac{1}{3}$			Ship's ditto.
	26 $43\frac{2}{3}$	N. 67 $11\frac{2}{3}$ E.	6	25 21			Knight's ditto.

1775	Altitude of the ☉'s L. L.	Magnetic Azimuth of the ☉'s centre	No. of Obs.	Variation East	Latitude South	Longitude East	Observers and Remarks
☉ Jan 1	11 20½	S 41 21 W	10	24 45⅓	54 41	295 46	Knight's Compaſs
☽ —— 2	12 34¼	S 44 49⅙ W	6	23 14½			Ditto Mr Gilbert
♂ —— 3	18 26⅞	N 83 35 E	8	19 54			Ship's Compaſs } The Ship
	20 24½	N 80 56⅞ E	8	19 47⅙	55 11	297 7	Knight's ditto } rolled 28°
☿ —— 4	17 0½	N 85 13½ E	10	20 11⅚	56 42⅓	300 30	The Ship rolled 25°
♀ —— 6	19 16	N 77 10 E	4	24 36			Mr Pickerſgill Greg Comp
	23 12½	N 71 13 E	5	24 25½	57 22½	306 19	Knight's Comp Great motion
♄ —— 7	16 12½	S 50 1½ W	6	23 53⅓	56 27½	306 30	Ditto
☉ —— 8	12 57⅙	S 50 3½ W	8	19 55⅓	55 3	308 10	Ditto
♂ —— 10	22 54	N 78 10 E	6	17 42	54 38½	314 20	
♄ —— 14	29 56⅓	S 78 49⅙ W	12	15 44½	53 57⅐	320 35	
☽ —— 16	5 21½	S 73 22½ E	4	12 29⅚	53 56	322 37	Mr Gilbert Ship's Compaſs
♂ —— 17	18 37¼	S 68 50 W	6	11 13½	54 9	323 10	Ship's Compaſs
	19 6	N 89 0 E	2	10 1			Mr Clerke Ship's Compaſs
	20 31½	N 85 46½ E	6	11 18⅓	54 20½	323 54	Knight's Compaſs
	21 31¼	N 83 50 E	5	11 52½			Ship's ditto
♃ —— 19	15 6	S 64 28⅓ W	6	11 31½			Ditto
	14 0	S 62 45 W	2	11 42½	54 47½	324 20	Knight's Compaſs
	12 49⅙	S 59 48⅓ W	3	12 59⅓			Ditto
	12 58	S 88 28⅓ E	6	15 13¼			Ship's Compaſs
	14 9¼	N 88 39⅙ E	6	16 30⅙	54 59⅙	323 40	Knight's ditto
☉ —— 22	19 48½	S 69 26⅞ W	8	14 15½	54 54½	325 37	Mr Gilbert Greg Comp A bad horizon
☽ —— 23	11 42½	S 83 43⅓ E	3	10 42½	54 57½	325 25	Bad horizon
☿ —— 25	18 20⅓	S 74 28 W	5	9 6			Knight's Compaſs
	17 19½	S 74 11½ W	6	7 24⅓	56 14½	327 30	Gregory's ditto
	16 10⅓	S 71 16 W	5	8 38			Knight's ditto
	14 21½	S 89 50 E	5	12 33½	57 4½	328 58	Ditto
♃ —— 26	17 9½	S 94 30 E	6	11 37⅓			Gregory's Compaſs
	18 33⅞	N 84 36½ E	6	10 43½	59 14	329 0	Knight's ditto
♂ —— 31	14 2½	S 89 37 E	8	10 47⅙			Ship's ditto } Capt Cook
	15 30½	S 92 45⅛ E	8	10 37½	58 37½	332 45	Knight's ditto }
♃ Feb 2	13 56⅓	S 70 50 W	3	9 49½			Mr Gilbert Ship's Comp
	13 33⅚	S 70 35 W	5	9 15½	57 48⅙	333 8	The ſame Compaſs
♀ —— 5	15 58	S 80 37½ W	2	4 33½			Mr Gilbert }
	14 56	S 79 15 W	1	4 20½	57 16⅓	336 38	Mr Clerke } Ship's Compaſs
	14 9½	S 76 12½ W	6	6 11			
♂ —— 7	14 30⅙	S 82 17½ W	8	1 52½	58 28	342 50	Knight's Compaſs
	18 39	N 86 3 E	5	2 42⅓			Gregory's Compaſs } Mr Gilbert
	19 25⅓	N 86 42½ E	6	0 46½			Ship's ditto }
	20 13⅔	N 83 48 E	5	2 21	58 29⅓	344 40	Knight's ditto }
	21 32½	N 80 49 E	5	3 5½			Knight's Compaſs
☿ —— 8	9 36¼	S 77 30 E	6	0 23⅓			Gregory's dit Mr Pickerſgill
	12 44½	S 83 5 E	3	0 50½	58 28	346 44	Knight's Compaſs
				West.			
♃ —— 9	14 16½	S 85 5½ W	8	0 7½	58 26⅓	346 53	Ditto

1775.	Altitude of the ☉'s L. L. ° '	Magnetic Azimuth of the ☉'s Centre. ° '	No. of Obs.	Variation West. ° '	Latitude South. ° '	Longitude East. ° '	Observers, and Remarks.
♃ Feb. 9.	10 57¾	S. 79 41½ E.	6	0 16	58 17	348 16	Knight's Compass.
	12 28¾	S. 81 43¼ E.	6	0 42½			Ship's ditto.
♀ —— 10.	18 39⅙	S. 94 19½ W.	10	1 40½	58 15¼	350 6	Knight's ditto.
♄ —— 11.	15 58⅚	S. 85 36½ E.	8	3 41¼	58 23	352 56	Ship's ditto. } Mr. Gilbert.
	17 10⅚	S. 87 0½ E.	6	4 16⅚			Knight's ditto. } Mr. Gilbert.
☉ —— 12.	21 42½	N. 78 22½ W.	2	3 2	58 20	353 15	Ditto.
	17 3⅞	S. 87 14⅚ E.	6	4 21½	58 2	354 29	Ditto.
	18 15⅚	S. 88 59 E.	5	4 35½			Mr. Gilbert. Ship's Comp.
Dropped 360° of Longitude, and repeated ♂ February the 14th.							
♂ —— 14.	13 53	N. 80 51½ W.	12	6 50½	56 14½	4 50	A great sea.
♃ —— 16.	10 30½	N. 75 31½ W.	6	12 7	54 24⅚	6 30	
	23 51	S. 89 37½ E.	8	13 42½	54 21½	8 6	
♀ —— 17.	14 50½	N. 76 29 W.	10	13 16½	54 25½	9 20	
♂ —— 21.	16 3¼	N. 66 15½ W.	10	19 8½	54 26	19 15	
♄ —— 25.	24 56½	S. 82 49½ E.	10	24 7⅚	49 37½	29 32	
♂ —— 28.	12 18⅚	N. 65 3½ W.	6	23 12	46 48	33 36	Gregory's Compass.
	9 34½	N. 67 22½ W.	6	23 50⅚			Knight's ditto.
☿ March 1.	20 53½	S. 77 30 E.	2	24 12	45 53½	31 0	Mr. Gilbert. Ship's Comp.
	22 23½	S. 78 50 E.	3	24 34			Knight's Compass.
♃ —— 2.	4 13¼	N. 73 23½ W.	8	22 23¼	45 3⅞	30 45	
	13 19¾	S. 70 34½ E.	2	22 56½	44 10	30 3	
♀ —— 3.	18 21⅙	N. 57 32½ W.	8	23 57½	43 33	29 40	
	16 37½	S. 74 28 E.	10	22 41½	43 43½	29 15	Very hazy.
☽ —— 6.	10 40½	S. 70 28 E.	8	21 57½	41 33	26 36	
☿ —— 8.	7 8½	S. 68 51 E.	6	21 30½	42 0¾	25 25	
♀ —— 10.	7 51½	N. 67 33½ W.	8	20 50½	40 47½	23 50	
☉ —— 12.	7 18½	N. 66 7½ W.	8	22 9½	38 40⅚	24 10	
☽ —— 13.	6 21½	N. 66 56½ W.	8	22 2	37 0	22 24	
♂ —— 14.	9 41½	S. 71 30½ E.	8	22 46	35 20½	22 17	
♃ —— 16.	7 14½	S. 73 21½ E.	8	20 1½	34 55½	21 10	
♀ —— 17.	12 19⅚	N. 61 7½ W.	6	21 30½	35 6¼	20 50	
	7 37½	S. 73 51½ E.	7	20 22½	34 58	20 40	
♃ April 27.	9 57½	N. 84 49½ E.	6	19 4⅞	33 4	16 43	
♀ —— 28.	9 35½	N. 86 15 E.	6	20 1	31 45½	14 13	
♄ —— 29.	9 9½	N. 85 30 E.	6	18 46	30 29	11 52	
☉ —— 30.	9 1½	N. 84 34½ E.	7	17 42½	29 21½	10 12	Knight's Compass.
	12 6¼	N. 82 48½ E.	6	18 7	29 21	10 12	Ship's ditto.
♂ May 2.	7 53	N. 84 30 E.	6	16 42½	27 12½	7 11	
☿ —— 3.	6 55½	N. 84 26½ E.	7	16 13⅞	26 42¼	6 42	
♃ —— 4.	4 45⅙	N. 52 16½ W.	6	17 8	26 25	6 30	
♄ —— 6.	9 48⅞	N. 81 53½ E.	8	15 17½	23 44½	3 40½	
	13 33½	N. 80 1½ E.	6	15 36	23 44½	3 40½	
☉ —— 7.	7 10⅞	N. 53 7½ W.	8	14 57½	23 11½	3 0¼	
	7 58½	N. 83 7½ E.	4	15 23½	22 23½	2 12½	
☽ —— 8.	18 54⅚	N. 76 16¾ E.	6	14 21	21 1½	0 33	

1775	Altitude of the ☉'s L L	Magnetic Azimuth of the ☉'s Center	No. of Obs	Variation West	Latitude North	Longitude West	Observers and Remarks
	° ′	° ′		° ′	° ′	° ′	
♂ May 9	7 22[illegible]	N 54 $59\frac{1}{8}$ W	6	13 11[illegible]	20 $31\frac{1}{3}$	0 4	Gregory's Compass Mr Burr
	8 57[illegible]	N 81 $25\frac{5}{8}$ E	6	14 $55\frac{1}{4}$	19 49	0 48	
♃ —— 11	3 $17\frac{1}{2}$	N 55 $47\frac{1}{2}$ W	6	14 0	18 $44\frac{1}{3}$	2 23	
	10 $58\frac{1}{2}$	N 80 $22\frac{1}{2}$ E	8	13 57	18 32[illegible]	2 35	
♀ —— 12	4 $17\frac{4}{5}$	N 55 $31\frac{7}{8}$ W	8	13 38[illegible]	18 21[illegible]	2 45	
	7 53[illegible]	N 81 20 E	6	13 33[illegible]	17 55	3 5	
♄ —— 13	16 $53\frac{1}{2}$	N 77 $32\frac{1}{2}$ E	6	13 51[illegible]	16 $56\frac{3}{8}$	4 2	
☉ —— 14	7 $26\frac{1}{2}$	N 81 $4\frac{1}{6}$ E	6	13 $15\frac{1}{6}$	16 $10\frac{1}{3}$	4 55	
☿ —— 17	8 $52\frac{5}{8}$	N 54 26[illegible] W	6	12 $18\frac{1}{6}$	15 $55\frac{1}{3}$	5 49	On board the ship at St Helena
☽ —— 22	24 3	N 71 1 E	5	12 12	14 $45\frac{1}{2}$	7 40	
♂ —— 23	8 $20\frac{1}{4}$	N 77 $30\frac{5}{8}$ E	8	11 24[illegible]	13 45[illegible]	9 40	
☿ —— 24	9 21[illegible]	N 76 $47\frac{1}{2}$ E	6	10 $56\frac{1}{6}$	12 9	10 48	
	10 51[illegible]	N 76 $55\frac{5}{8}$ E	6	11 21[illegible]			Mr Gilbert
♃ —— 25	9 $10\frac{1}{2}$	N 77 35 E	6	11 13	10 21	11 40	
♀ —— 26	8 $26\frac{1}{4}$	N 77 56[illegible] E	6	11 9[illegible]	8 $38\frac{1}{6}$	12 45	
♄ —— 27	10 32[illegible]	N 77 $20\frac{5}{6}$ E	6	10 $42\frac{5}{8}$	7 55	13 45	
☉ —— 28	3 24[illegible]	N 56 48[illegible] W	12	10 54[illegible]	7 56	14 30	Taken on board the ship, at anchor, off the Island of Ascension
	Amplit.	N 57 20 W	1	11 21[illegible]			
♂ —— 30	Ditto	N 57 16 W	1	11 7[illegible]			
☿ —— 31	5 22[illegible]	N 55 46[illegible] W	6	11 $6\frac{5}{8}$	7 50[illegible]	14 37	
	11 33[illegible]	N 75 $49\frac{1}{8}$ E	6	10 $9\frac{5}{8}$	7 $7\frac{1}{3}$	15 6	
♃ June 1	9 $8\frac{1}{4}$	N 75 47[illegible] E	6	9 39[illegible]	6 $45\frac{1}{6}$	16 55	
♀ —— 2	14 $25\frac{7}{8}$	N 74 1[illegible] E	6	9 8	6 29	18 55	
♄ —— 3	10 12[illegible]	N 73 41[illegible] E	6	8 11[illegible]	6 $4\frac{1}{3}$	21 8	
☉ —— 4	8 32	N 72 $50\frac{1}{6}$ E	6	6 44[illegible]	5 43[illegible]	23 15	
☽ —— 5	8 $4\frac{1}{6}$	N 71 57[illegible] E	6	5 $47\frac{1}{6}$	5 $14\frac{1}{3}$	25 35	
♂ —— 6	6 $57\frac{3}{5}$	N 70 39[illegible] E	10	4 $22\frac{1}{6}$	5 1	27 35	Knight's compass
	8 $58\frac{1}{4}$	N 70 $49\frac{3}{8}$ E	8	4 51[illegible]			Gregory's ditto
☿ —— 7	8 $56\frac{7}{9}$	N 69 45[illegible] E	9	3 $40\frac{1}{8}$	3 59	29 10	
♃ —— 8	9 $11\frac{1}{6}$	N 67 $41\frac{3}{8}$ E	8	1 25[illegible]	3 $43\frac{1}{6}$	31 35	
♀ —— 9	17 $57\frac{1}{2}$	N 62 41[illegible] W	6	1 37[illegible]	3 $47\frac{1}{6}$	32 33	Ship's compass
	16 $3\frac{5}{6}$	N 64 34[illegible] W	6	0 $23\frac{1}{6}$			Knight's ditto.
	6 36[illegible]	N 66 43[illegible] E	6	0 14[illegible]	2 24	32 12	
♄ —— 10	13 $1\frac{1}{4}$	N 64 $51\frac{7}{8}$ W	8	1 2	1 34	32 0	
	14 $2\frac{4}{5}$	N 66 37[illegible] E	8	0 39[illegible]	0 $35\frac{5}{6}$	32 0	
					North		
☉ —— 11	17 10	N 64 22 W	10	1 25	0 $13\frac{1}{3}$	31 50	
	9 11	N 68 9[illegible] E	7	1 $22\frac{5}{6}$	1 27[illegible]	31 40	
☽ —— 12	17 $25\frac{1}{6}$	N 63 $59\frac{1}{6}$ W	6	2 $21\frac{1}{8}$	2 13	31 36	
♂ —— 13	10 $36\frac{7}{8}$	N 69 20 E	4	2 13[illegible]	4 23[illegible]	31 28	Very cloudy
☿ —— 14	17 $13\frac{1}{6}$	N 65 $33\frac{1}{4}$ W	12	1 26[illegible]	4 36[illegible]	31 20	
♀ —— 16	10 65[illegible]	N 62 $8\frac{1}{4}$ W	8	5 $11\frac{1}{2}$	5 $11\frac{1}{4}$	30 14	
♄ —— 17	10 $58\frac{1}{2}$	N 61 45 W	1	5 32	6 14	30 1	
☉ —— 18	9 $27\frac{1}{8}$	N 71 33[illegible] E	8	4 16	6 59[illegible]	30 10	
☽ —— 19	9 34[illegible]	N 72 $12\frac{4}{7}$ E	7	4 $47\frac{3}{8}$	7 $53\frac{3}{8}$	30 40	
♂ —— 20	10 $33\frac{1}{4}$	N 71 $55\frac{1}{8}$ E	6	4 $14\frac{1}{8}$	9 9	32 18	

1775.			Altitude of the ☉'s L. L. °	'	Magnetic Azimuth of the ☉'s Center.	°	'		No. of Obs.	Variation West. °	'	Latitude North. °	'	Longitude West. °	'	Observers, and Remarks.
☿	June	21.	12	15½	N.	71	28	E.	10	3	23	10	47½	33	30	
♀	——	23.	11	1⅓	N.	72	20⅓	E.	7	3	57½	14	13⅓	36	0	
♄	——	24.	17	42½	N.	65	57½	W.	8	3	40½	14	56⅓	36	15	
☽	——	26.	13	0	N.	65	35	W.	6	3	41	18	15	38	34	
			7	23⅙	N.	72	30	E.	7	4	40	19	8⅙	38	57	
♂	——	27.	9	7½	N.	64	20½	W.	8	4	4⅙	19	57½	39	15	
			9	35½	N.	72	16½	E.	6	3	37½	20	50⅙	39	33	
♃	——	29.	16	14⅙	N.	65	50⅙	W.	6	5	0½	23	36	40	10	
			16	31½	N.	77	47½	E.	2	6	8⅙	24	42½	40	37	
♀	——	30.	14	51½	N.	65	3½	W.	6	6	4½	25	30½	40	50	
			7	40½	N.	73	57½	E.	10	5	58½	26	14½	41	5	
♄	July	1.	12	44	N.	64	49⅙	W.	6	5	30⅙	27	33½	41	10	
			8	42½	N.	75	3½	E.	6	6	35½	28	13½	41	25	
☉	——	2.	18	32½	N.	80	10½	E.	10	6	32½	29	42	41	3	
☽	——	3.	10	54½	N.	77	29⅙	E.	8	7	43	30	52½	40	37	
☿	——	5.	17	42⅙	N.	64	1½	W.	6	9	53	32	38½	39	58	
			10	57½	N.	79	18½	E.	6	9	20	33	2	39	58	
♃	——	6.	16	24½	N.	64	6½	W.	6	9	14½	33	10½	39	57½	
			10	13⅙	N.	79	10	E.	6	9	33	33	22½	39	48	
♀	——	7.	12	42½	N.	62	17½	W.	6	8	58	33	39½	39	44	
♄	——	8.	4	13⅙	N.	55	47½	W.	6	9	47	34	18½	39	43	
			14	16½	N.	83	23½	E.	8	10	53½	34	52	39	45	
☉	——	9.	14	32½	N.	62	37½	W.	8	10	8⅙	35	11½	39	40	
			12	53½	N.	81	53½	E.	6	10	8½	35	28½	39	0	
☽	——	10.	13	10½	N.	62	52½	W.	7	10	33⅙	36	0½	38	20	
♂	——	11.	6	19½	N.	64	52½	W.	7	12	8½	37	9½	35	20	
☿	——	12.	11	34½	N.	56	27	W.	10	14	42½	38	13½	32	10	
♃	——	13.	12	24⅙	N.	55	39⅙	W.	6	10	17½	38	33	29	15	
♀	——	14.	18	42½	N.	81	36½	E.	6	21	19	38	31½	28	33	Taken on board the ship in Fayal Bay. See also p. 140.
☿	——	19.	15	19½	N.	80	48½	E.	8	17	33	39	8½	25	50	
♀	——	21.	10	55½	N.	56	4½	W.	10	16	17½	39	26	23	36	
♄	——	22.	9	29⅙	N.	54	44⅙	W.	6	16	57½	39	51½	22	13	
☉	——	23.	14	5½	N.	57	54⅙	W.	8	17	44½	41	12½	19	42	
☽	——	24.	11	49½	N.	55	5½	W.	10	18	59½	42	29	17	45	
♂	——	25.	8	51½	N.	60	40½	W.	9	20	39½	44	6	15	50	
			16	38½	S.	79	11½	E.	8	21	53½	45	5	14	35	
♃	——	27.	15	27½	N.	59	1½	W.	8	19	40½	47	32½	10	37	
♀	——	28.	14	47½	N.	63	52	W.	10	19	10½	48	27½	7	58	
♄	——	29.	16	11½	S.	60	46	W.	3	19	24	50	6½	4	0	
			14	10½	S.	58	21½	W.	6	19	28					

THE END.

E R R A T A.

Page 2, in the title to the right-hand Col on the lower part of the page, for *gains* read *loses*
Page 65 In the title to the right hand Col at the top of the page for *gains* read *loses*
For page 136 read page 139
Page 281 Sept 23d Col 6 for 2h 25 55 ½ read 2h 25 25 ½
Page 282 Oct. 10th Col 3 for 21h 47′ 5 read 21h 7′ 33″
Page 282 July 20th Col 3, for 0h 34′ 10 read 0h 34 40″
Page 311 Aug 4th Col 10, for 19° 11 ½ read 18 31 ½
Page 311 Aug 6th Col 10, for 18° 34 ½ read 19 14 ½
Page 328 Longitude of Cape Noir Col 9, for 287 56 ½, read 286° 56 ¾
In many places *dele* e in Mr Bayly's name.